NEWSLETTER

01/2020

1ST ISSUE

SCIENTIFIC AND SOCIAL SECRETARY DESK BMANA

President's message

I hope you all are enjoying the Holiday season. We have been actively at work improving our web page, updating various information and making it more user-friendly. In addition, I would like to personally thank our team who worked on the BMANA newsletter. If any of you have any publications, announcements, or achievements regarding our members, please contact our Scientific and Cultural Secretary, Dr. Yusufal Mamoon. I would also like to give thanks to our Young Physician's Secretary, Dr. Adeeba Anjum Geeti, and our members across the country who are working tirelessly to help our young Physicians thrive.

Most importantly, I am requesting all our members to encourage eligible physicians in North America to join BMANA and help our organization grow and flourish. I would like to take this opportunity to thank all our members for your support & effort in making BMANA even better. If you have any ideas or suggestions please share it with us. I wish you all Happy Holidays and a Happy New Year.

Best Regards,

M.Ziaur Rahman, MD, MBBS from CMC

President, BMANA

Md Yusufal Mamoon MD, MBBS from RMC

Assistant Professor, Queens Hospital center, NY

Scientific and Social Secretary, BMANA

Welcome all, to our first BMANA newsletter. This newsletter is the place where you all can share any news articles, accounts of achievements, poetry, or narratives with everyone in BMANA. Creating this newsletter was a necessary step toward increasing the participation of the members of BMANA. But, in order for this newsletter to be successful, we need your help, and we would highly appreciate it if you would email us any written works you would like to have published in this newsletter. Also, send us any feedback or advice you think would help us improve the newsletter.

I would like to wish everyone a happy and prosperous new year. In 2020 we hope to continue our progress towards making BMANA a more unified and vigilant organization. Our next newsletter will be on June 2020. Please forgive us for our mistakes and help us make this newsletter useful and informative.

Md Yusufal Mamoon

Scientific and Social secretary, BMANA

Please E mail your writings at mamoonbmana@gmail.com

Lecture Section:

Recorded lectures on basic EKG:

Chowdhury H. Ahsan, M.D., F.A.C.C. F.S.C.A.I. Director of the Cardiology Fellowship program, University of Nevada School of Medicine MBBS from Dhaka Medical College.

To see the video please press Ctrl and click the following link.

https://drive.google.com/…/1VbFoQR3I4DNXkSyrOyc_3KJmLx…/view

Dr Ahmad Morshed, MD, MBBS from CMC

Cardiology Attending, Maimonides hospital, NY

Member At Large, BMANA

To see the video please press Ctrl and click the following link from 26 minutes:

https://www.facebook.com/BMANA.USA/videos/570122890148691/

Scientific Section:

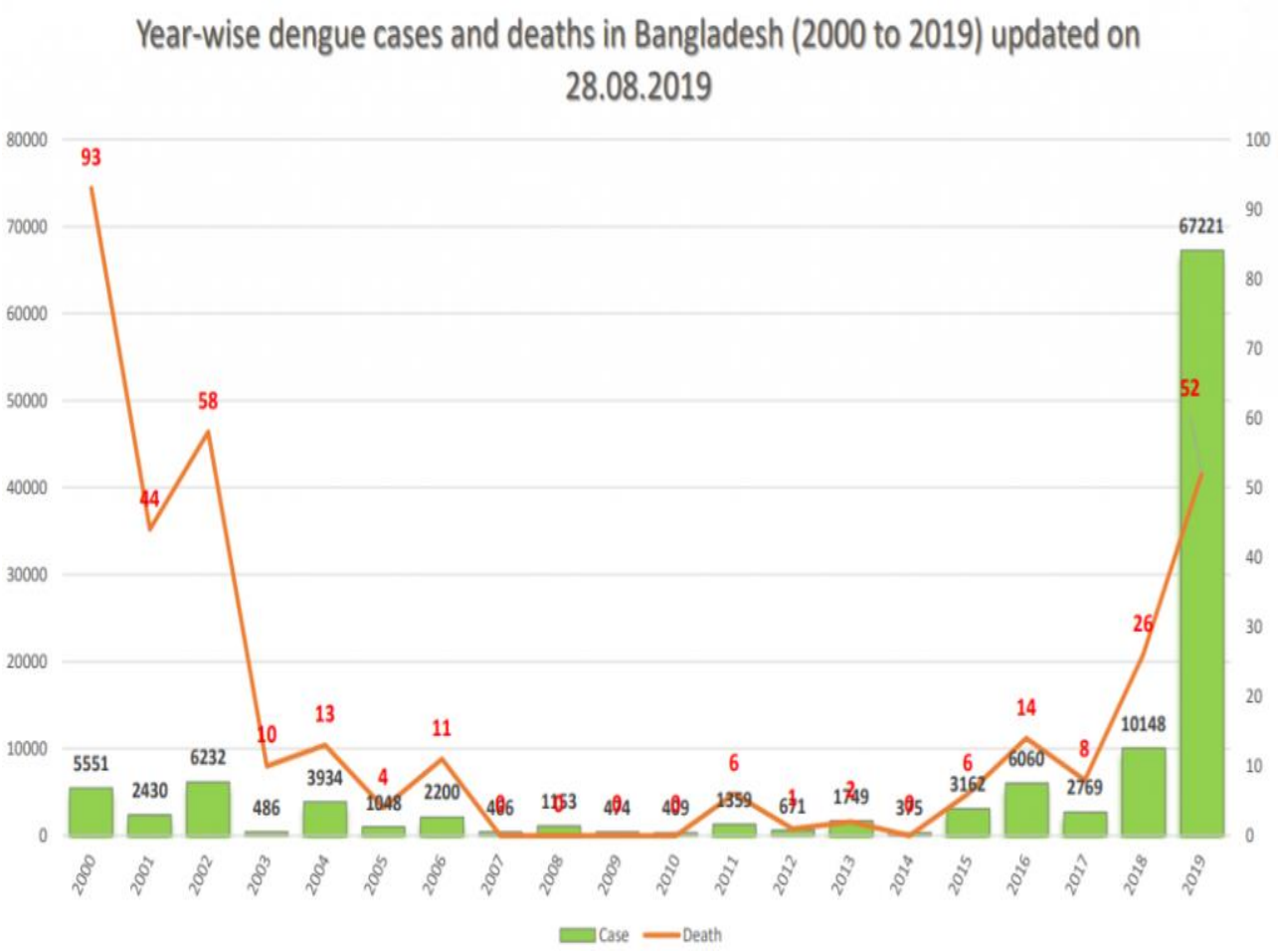
Muhammad M. Zaman, MD. MBBS from SOMC

Attending Physician, Coney Island Hospital, Brooklyn, NY.

Assistant Professor of Medicine, SUNY Health Science Center, Brooklyn, NY.

DANGUE VIRUS DISEASE 2019:

The Epidemic: The Bangladesh Directorate General of Health Services (DGHS) has reported 50,974 dengue fever cases during the month of August 2019, total for one month tops the total cases reported in the country from 2000 through 2018 (50,148). About six out of ten cases have been reported in Dhaka, with some 42 percent reported cases outside the capital.There is no sign of slowing down. The total number of cases reported since the start of January to October 14, 2019 reached 91,115. Along with new cases, death toll is also raising. So what is behind this rapidly expanding epidemic and severe disease?



The Virus: Reports of dengue-like illness date back more than 200 years, but viral etiology of the disease was established in the 1940s. Dengue viruses are RNA viruses belongs to family Flaviviridae, genus Flavivirus, and consists of at least four antigenically related but distinct viruses, designated as types 1 through 4. Transmitted by Aedes aegypti mosquitoes, generally regarded a day time mosquitoes, also transmits yellow fever, West Nile fever, chikungunya, Zika virus, and several encephalitis viruses.

Pathogenesis: Dengue virus is introduced into the skin when an infected mosquito takes a blood meal from a susceptible host. During the first 24 hours, virus could only be isolated from the injection site. The major cell type infected is not well defined; but Langerhans cells, dermal fibroblasts, as well as human skin dendritic cells are permissive for dengue viral infection.

Following fusion of viral and human cell membranes, the viral RNA enters the cytoplasm. The viral proteins are then translated directly from the viral RNA as a single polyprotein, which is cleaved to yield the three structural and seven nonstructural (NS) proteins, NS 1 antigen is being used for early diagnosis of dengue infection.

Immune response: Infection of human cells leads to production of interferons which inhibits dengue virus infection. In addition, dengue virus–infected cells are susceptible to lysis by natural killer cells in vitro. However, dengue viral proteins are able to inhibit both the production of interferons and their antiviral function in infected cells. In several studies, the expression of genes associated with type I interferon signaling was significantly lower in patients with dengue shock syndrome (DSS) than in patients without DSS. The antibody response to dengue virus infection is primarily directed at serotype-specific determinants, but there is a substantial level of serotype-cross-reactive antibodies. The T lymphocyte response to dengue virus infection also includes both serotype-specific and serotype-cross-reactive responses. Dengue virus-specific CD4+ and CD8+ T cells can lyse dengue virus-infected cells in vitro and produce cytokines such as IFN-gamma, tumor necrosis factor (TNF)-alpha, and lymphotoxin. In vitro, IFN-gamma can inhibit dengue virus infection of monocytes. However, IFN-gamma also enhances the expression of Ig receptors, which can augment the antibody-dependent enhancement of infection.

Phases of infection: Dengue virus infection consists of three phases: a febrile phase, a critical phase, and a recovery phase.

The febrile phase of dengue virus infection is characterized by sudden high-grade fever with headache, vomiting, myalgia, arthralgia, and a transient macular rash in some cases. The febrile phase lasts for three to seven days, after which most patients recover without complications. Headache, eye pain, and joint pain occur in 60 to 70 percent of cases. Additional manifestations may include gastrointestinal symptoms (including anorexia, nausea, vomiting, abdominal pain, and diarrhea) and respiratory tract symptoms (cough, sore throat, and nasal congestion). Hemorrhagic manifestations may be observed in the febrile phase and/or critical phase. Leukopenia and thrombocytopenia ($\leq$100,000 cells/mm^3) are common. Serum aspartate transaminase (AST) levels are frequently elevated; the elevations are usually modest (2 to 5 times the upper limit of normal values), but marked elevations (5 to 15 times the upper limit of normal. Between days 3 and 7 of the illness, the clinician must watch for signs of vascular leakage. These include persistent vomiting, increasingly severe abdominal pain, tender hepatomegaly, a high or increasing hematocrit level ($\geq$20 percent from baseline) concurrent with a rapid decrease in the platelet count, development of pleural effusions and/or ascites, mucosal bleeding, and lethargy or restlessness.

Critical phase of illness develops around the time of defervescence (typically days 3 to 7 of infection), a small proportion of patients (typically children and young adults) develop a systemic vascular leak syndrome characterized by plasma leakage, bleeding, shock, and organ impairment (Capillary leak syndrome). The critical phase lasts for 24 to 48 hours. Initially, adequate circulation may be maintained by physiologic compensation, resulting in pulse pressure narrowing (systolic pressure minus diastolic pressure ≤20 mmHg), the patient may appear well, and the systolic pressure may be normal or elevated. Nonetheless, urgent, careful resuscitation is needed; once hypotension develops, systolic pressure falls rapidly and irreversible shock may follow despite aggressive attempts at resuscitation. Imaging modalities for detection of plasma leakage include ultrasonography (of the chest and abdomen) and chest radiography. Moderate-to-severe thrombocytopenia is common during the critical phase; nadir platelet counts ≤20,000 cells/mm^3 may be observed, followed by rapid improvement during the recovery phase.

During the convalescent phase, plasma leakage and hemorrhage resolve, vital signs stabilize, and accumulated fluids are resorbed. An additional rash (a confluent, erythematous eruption with small islands of unaffected skin that is often pruritic) may appear during the convalescent phase. The recovery phase typically lasts two to four days; adults may have profound fatigue for days to weeks after recovery.

Primary versus secondary infection: Infection with one of the four serotypes of dengue virus (primary infection) generally provides long-lasting immunity to infection with a virus of the same serotype. In contrast, immunity to the other dengue serotypes is transient, and individuals can subsequently be infected with another dengue serotype (secondary infection). The kinetics of dengue virus-specific antibodies in secondary dengue infections differ from those of primary dengue infections in several ways. 1. Low concentrations of antibodies to the virus serotype causing the secondary infection are present before exposure to the virus. As a result, antibody-dependent enhancement of infection leading to more severe immune response could occur early in secondary dengue virus infections, 2. Concentrations of dengue virus-specific antibodies increase earlier in secondary infection, reach higher peak titers, with greater potential for forming immune complexes of dengue virions and activating complement, another contributing factor to severe disease.

Diagnosis: The diagnosis of dengue virus infection should be suspected in febrile individuals with typical clinical manifestations and history of exposure. Early clinical presentations of dengue, chikungunya, and Zika virus infection may be indistinguishable. Laboratory diagnosis of dengue virus infection is established directly by detection of viral components in serum or indirectly by serology. Viral nucleic acid in serum can be detected by RT-PCR assay **or** via detection of viral antigen NS1, typically both are positive during the first seven days of illness.

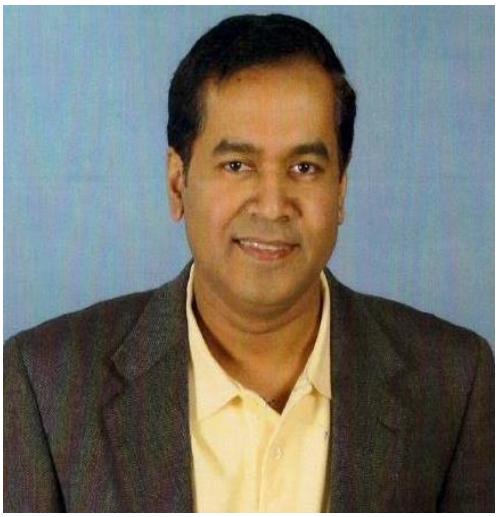
Immunoglobulin (Ig) M can be detected as early as four days after the onset of illness. The likelihood of IgG detection depends on whether the infection is primary or secondary. In addition, monitoring CBC and electrolytes are vital to recognize complication and manage the disease.

Testing in Bangladesh: Several laboratories including ICDDR,B are offering a wide range of diagnostic test including detection of NS 1 antigen. (Ref: Virology Journal volume 16, Article number: 102 (2019); ICDDR.B's rapid response to the growing Dengue outbreak in Dhaka, Bangladesh, 31 JUL 2019]. **The government of Bangladesh has fixed the fees for the medical tests to diagnose dengue at all private hospitals, clinics and diagnostic centers across the country:** the maximum fees for NS1 Antigen test will be Tk 500, IgG + IgM or IgG/IgM test Tk 500, and CBC (RBC + WBC + Hematocrit) test Tk 400. [Ref: The Daily Star Bangladesh 05:04 PM, July 28, 2019].

Management: Early diagnosis, both clinically and laboratory testing is key to successful management. Patients should be instructed to take plenty of fluids and watch for signs of dehydration. In the setting of shock (normal systolic pressure but rising diastolic pressure with narrowing pulse pressure), patients may be managed by fluid replacement, vasopressors, and platelet transfusion for symptomatic thrombocytopenia. Use of steroid is controversial, and generally avoided. Intubation and hemodialysis in selected cases can be lifesaving.

Conclusion: The likelihood for development of severe dengue, including capillary leak syndrome is highest among individuals who develop a second dengue infection caused by a different virus type from the first infection. This seems to be the case during current epidemic in Bangladesh.

Disclosure: I have used online resources including Uptodate.com in preparation of this article.



Sajjad Ali Khan B.D.S,D.D.S,M.I.C.O.I

ROLE OF GUM DISEASE IN BLOOD GLUCOSE LEVEL OF DIABETIC PATIENT:

About the Author : Dr. Khan , received his BDS from Dhaka Dental College ,then Doctor Of Dental Surgery from School of Dental Medicine of SUNY at Buffalo , He finished his Residency and became Chief resident at Bronx Lebanon Hospital later he served as an Attending at the Bronx Lebanon Hospital .He served as Director of CHC of New London ,He founded OCDG LLC ,ABDENTAL GROUP LLC , AT Present he is in Private practice as founder owner of Advantage Dental Group llc. He received post graduate training at Misch Implant Institute .He received Master status from ICOI.

Gum disease is a significant public health concern in US. One out of every two American adults aged 30 and over has periodontal disease, according to recent findings from the Centers for Disease Control and Prevention (CDC). A study estimates that 47.2 percent, or 64.7 million American adults, have mild, moderate or severe periodontitis, the more advanced form of periodontal disease. In adults

65 and older, prevalence rates increase to 70.1 percent. This study is published in the Journal of Dental Research , the official publication of the International and American Associations for Dental Research.

More than 100 million U.S. adults are now living with diabetes. The report finds that as of 2015, 30.3 million Americans – 9.4 percent of the U.S. population –have diabetes. Another 84.1 million have pre diabetes, a condition that if not treated often leads to type 2 diabetes within five years.

Blood glucose level is the key factor in Diagnosis of diabetes and a critical indicator for the management of the disease. Researcher have found treating Gum disease is in diabetic patient showing reduce blood glucose level in Type 2 diabetic patients. Gum disease usually treated Scaling and root planing plus adjuvant treatments effectively lower blood glucose levels in nonsmoking patients with type 2 diabetes and chronic periodontitis, according to a meta-analysis of more than a dozen studiesThe researchers wanted to determine which periodontal treatment best controlled glycemic levels in patients diagnosed with type 2 diabetes and chronic periodontitis. They searched medical and scientific databases for randomized controlled trials through May 2018 and included 14 trials in their analysis.

The trials involved 629 patients with both periodontitis and type 2 diabetes who had severe gum disease treated with scaling and root planing. The patients had no other systemic diseases. The patients had type 2 diabetes for between four and almost 12 years, and their treatments primarily included diet and insulin supplementation or oral antidiabetic medications. The baseline of hemoglobin A1c levels in the patients varied between 6.2 to 10.4.

The use of SRP with photodynamic therapy and doxycycline improved levels of hemoglobin A1c, an indicator of how well diabetes is being controlled, better than SRP alone or SRP with antibiotics, the researchers found. The treatment combination was most effective for patients who didn't smoke or had severe type 2 diabetes complications.

The authors noted some limitations to their research. The quality of the evidence from the included studies was low or very low, and almost 36% of the studies did not report the details of their randomized methods. In addition, only English studies were used, sample sizes were small, and the follow-up duration of the trials were short.

While longer-term well-executed, multi center trials are needed to corroborate the results, the findings of the meta-analysis seemed to support that SRP with photodynamic therapy plus the use of doxycycline had the best efficacy in lowering glycemic levels, the researchers concluded.

"Among the different treatments, SRP and aPDT and [doxycycline] ranked best," wrote the authors, led by Ruoyan Cao of the department of prosthodontics at the Xiangya Stomatological Hospital & School of Stomatology at Central South University in Changsha, China.

In conclusion, it is becoming more and more important to treat or manage a disease in comprehensive care by collaborating with all the disciplines of medicine and surgery.

References: JADA, July Volume 149, Issue 7, p565-662, e101-e110, BMC Oral Health (August 6, 2019), January 2018, the Journal of Periodontology and Clinical Advances in Periodontics will be published by Wiley. Centers for Disease Control and Prevention(CDC)

Skin Health

MOUSHUMI MOZUMDER, M.D.
Chairperson, Family Medicine, St. Joseph Hospital

Skin Cancer: Definitions, Risk, Detection and Treatment

It's that time of year again, time to remind the community that although skin cancer is one of the most serious and fast-growing cancers in our country, it is also potentially preventable. There are 2 classes of skin cancer: non-melanoma (basal cell cancer and cutaneous squamous carcinoma cancer) and melanoma.

Non-Melanoma

Basal cell cancer (BCC) is the most common form of skin cancer in United States. It causes destruction of the skin and its surrounding tissue. It's most often found on the head and face and presents as a pink or flesh-colored pimple. Cutaneous Squamous Cell Carcinoma (cSCC) is the second most common form of skin cancer. It is infrequent in those under 45 years of age, but incidences increase dramatically with age.

Melanona

In contrast, melanoma is the least common form of skin cancer, but it's the most aggressive. It causes mortality in 75% of those diagnosed with it. Ninety percent of melanoma arises in those older than 10 years of age.

Risk Factors

The rapid increase of these types of cancers require a detailed understanding of associated risk factors. Some notable factors include age, environment, genetic factors and UV light. All skin cancers are more common in light-skinned populations. In darker-skinned people, cSCC is frequently associated with chronic inflammations, scarring and chronic wounds. Cumulative sun exposure is the most significant environmental cause of BCC and cSCC as it affects the areas most exposed to the sun. However, intense intermittent sun exposure (e.g. sunburn, childhood exposure) presents the most significant risk for melanoma. It often occurs in areas not exposed to the sun, which may cause a delay in diagnosis or a more serious prognosis.

Protect Yourself

Using sun protection, reducing sun exposure and avoiding indoor tanning, which emits UV light, can all dramatically reduce your risk of skin cancer. Proactive screening and early detection also play a key role in prevention and treatment. In fact, several studies have found that patients performing self-examinations of their skin led to detecting thinner tumors, reducing risk of advanced melanoma and minimizing mortality rates.

When to See Your Doctor

Physicians routinely screen for skin cancer, using their knowledge, experience and guidelines from organizations including the American Academy of Family Physicians, U.S. Preventive Services Task Force and American Cancer Society to identify the risk. They may use dermoscopy, which a noninvasive technique to evaluate skin lesions not otherwise visible to the naked eye.

It's strongly recommended that a patient see their doctor if they notice:

- any lesion or mole on their body
- any change in the size, shape or color of a lesion or mole
- any associated bleeding, crusting or irritation of a lesion or mole
- a mole larger than 7mm (the size of a pencil's eraser)
- an ulcer or wound that isn't healing or an inflamed scar

About Dr. Mozumder

Dr. Mozumder received her medical degree from Sir Salimullah Medical College in Dhaka, Bangladesh, spent her residency in Family Medicine at Lutheran Medical Center in Brooklyn, N.Y. and completed a Fellowship in Geriatric Medicine at New York University Medical Center in New York, N.Y. In addition to English, she is fluent in Bengali.

Dr. Mozumder is a board-certified family medicine physician and she is accepting new patients. For more information or to schedule an appointment, please contact St. Joseph Family Medicine & Specialty Services in Milford – 603.673.3014.

In Pursuit of Happiness: *A Holistic Approach*

By Dr. Aboo Nasar, MD, MPH, MBA. MBBS from DMC

Happiness is a virtue! It is acquired; not inherited. Through the eons of time, humankind has been in pursuit of the perfect elixir for happiness. In the early days, happiness was equated with possessions of material wealth. It was also thought that happiness could be gaged by land ownership. Then, came the industrial revolution and humankind thought technology and industrial progress could have a positive bearing on their happiness. However, with the advent of the industrial age, when both men and women had to toil in factories that had access to technology, their happiness score didn't deflect in a positive direction. More mind-boggling were the results of studies done by the London School of Business, Economics. Countries like Bhutan, Bangladesh, and some of the under-developed countries had a higher happiness score than overtly industrialized nations like the United States, the United Kingdom, and parts of Western Europe. These findings revealed that happiness is measured by true reflection of oneself and is yielded more by positive experiences than material possessions.

EPIGENETICS

We tried to dispel some popular myths about what are the main drivers of happiness. One of the first thing that dawns in our mind is the science of epigenetics. We know that 1% of our human genome is controlled by three million epigenetic regulatory sites. So in reality, our diet, lifestyle, sleep patterns, the

kind of relationships we have and nurture, our environment, physical and emotional state, and our physical activities all have a profound bearing on our mental state. According to the SMILES study on Supporting the Modification of Lifestyle in Lowered Emotional States and an evidenced based approach to mental health, we figured out that there is no single element or drug that can bring joy and happiness. Instead there are a multitude of factors that contribute to or take away from our health, happiness and mental wellbeing.

RISK FACTORS

In today's world, we are bombarded with multiple risk factors. Risk factors to depression stems from:

1) Death in the family

2) Divorce

3) Disability and/or loss of independence

    1. Displacement from one's homestead or country

    2. Children moving away

    3. Dietary deficiencies

7) Drugs/medications (e.g. statins, calcium channel blockers (CCB), and beta-blockers (BB) and even the same drugs used to treat depression can contribute to serious mental health issues)

    1. Pollution

INFLAMMATION & LIFESTYLE

We know for sure whether it is cancer, coronary artery disease, strokes, osteoporosis, arthritis, the smoking gun at the end of the day is inflammation. Inflammation contributes to tumor cytokines IL-6 and looking at those inflammatory markers, we know about one third of patients with depression have higher levels of cytokines. Our diet and lifestyle is pro-inflammatory. To avoid this, we have to shift our gears from pro-inflammatory to anti-inflammatory state. Inflammation throughout the entire body, triggered by an overactive immune system may be the root cause of the problem. It's a possibility that the immune system may be feeling to switch off after an illness or, leading to persistent symptoms of depression

Also, our lifestyles should include hobbies, our work interest, creative outlets, and relationships which will discuss later on. Also family relationships, how we spend family time with our friends and family members have a profound impact on our mental and spiritual health. Where do we derive our source of pleasure, our spiritual strength, our prayer, worship, love, and interdependence has a lot to do with our overall state of our physical and mental health and wellbeing

One of the popular hypothesis, which is being stemmed. is our energy currency pathways. The patients with mental health disorders have inefficient energy currency AT**P** production. With that in mind, adaptogens like Rhodiola, vitamin C, gut support, acetyl-L-carnitine has been beneficial. Also there are certain group of medications and supplements that stabilizes the neuronal cell membrane like lithium, magnesium. Melatonin can also stall or slow the progression of psychiatric conditions.

PROFITS & HARM FROM PSYCHOTROPICS

The pharmaceutical industry is the most profitable business in the Western world.

The average senior in the U.S. is on 14 types of medications. According to geriatrics experts, 8 or more different type of medications, contribute to adverse drug reactions by almost 100%. Psychotropic medications are the most widely prescribed drugs in the U.S.

In view of current psychiatric disorders and experts, mental health disorders all have complex patterns with a multifaceted causes. At the same time, we cannot ignore the power of the mind and spirit. Interestingly, our mind and physical state have powerful self healing properties. They can all balance into a perfect homeostasis provided they are given the opportunity with ideal conditions and circumstances

Over the last two decades it was opined that most of the psychiatric illnesses are manifestation of imbalances in brain biochemistry. Most of the drugs on the market produced mild-to-modest efficacy. But, they are also mired with multiple side effects. We also have to take into account post receptor hypersensitivity, when a drug being used for a long period of time loses its efficacy.

Looking at the financial side, the pharmaceutical industry spends over 25 billion dollars in direct to consumer marketing ads. The 2015 General Accounting Office (GAO) publication revealed that US consumers spent 150 billion dollars on antidepressants, and 33 % of seniors at SNF are treated with anti

psychotic drugs. These studies also revealed that antipsychotic drugs were contributing to a 60% increase death. Selective serotonin reuptake inhibitors (SSRIs) are antidepressants that work by altering the levels of a mood-enhancing chemical called serotonin. SSRIs are more effective than placebo 20% of the time, and cognitive behavioral therapy (CCB) is effective 90% of the time. SSRIs are being prescribed to children, which has contributed to increase hostility and suicide risk. Among the elderly, they profligate the use of benzodiazepines. Sleeping aids not only augments the risk for falls, but also contribute to permanent architectural changes in the brain.

The Star D study of major depression showed that only 2.7% of the study group benefited on antidepressants. Also that there was 77% remission rate and massive dropout rates up to 60%. According to the World Health Organization, schizophrenics fared much better in an under-developed country, where the patients had less access to antipsychotic drugs, than in a developed country. Research conducted by the pharmaceutical industry is not always valid, but often flawed. Interestingly we know that diet, lifestyle, and aerobic exercise have a better affect on our mental health than many of the drugs that are available in our armamentarium.

HOLISTIC APPROACH

According to Dr. Scott Shannon, “Integrative psychiatry, is ecologically sound care of the whole person body, mind and spirit. It encompasses mental, physical, emotional, social and spiritual issues, and the ecology of the whole person and his environment. It is also ecologically sound, cognitive in style, scientific in framework, humanistic in approach to the patient, developmental in concept, and collaborative in practice." When it comes to a patient in the functional medicine arena, we have to consider the ecology of the patient, which is a holistic approach. The key is the environmental milieu, where he is suspended or submerged. We know that patients who live in an environment where air is polluted with toxins, have a higher incidence of coronary artery disease and mental health conditions as well. Soils that are devoid of nutrients and contaminated with pesticides such as glyphosate, adversely affects the human microbiome and contribute to adverse mental and physical conditions. Our social connectivities and spirituality also play a very important role. In addition, one’s body weight, sleep patterns, and other comorbid health conditions each have their own unique role

DIET

To treat depression, we need to have a very holistic approach that includes exercise, nutrition, acupuncture, hormonal treatments, herbs, and supplements. We know that food is medicine. According to the prior studies like the Mediterranean diet study, we know that a Mediterranean diet reduces the

risk for Alzheimer's disease and acute coronary syndrome by more than 50%. That led the researchers to dwell into the MIND diet or Mediterranean–intervention for neurodegenerative delay by Rush University Medical Centre, by nutritional epidemiologist, Martha Morris, Ph.D. The MIND diet lowered the risk for Alzheimer's dementia by 53% who followed it vigorously and 35% who followed it moderately well. Then came the Modi-Medi Diet, which was a three-year study on patients with moderate-to-severe depression. Treatments group were provided with 12 food groups including whole grain, fruits, vegetables, nuts, legumes, greens, meats, chicken, and sea food, plus a decrease intake of empty carbs in the beige or empty starches and highly processed foods. Outcome of the Modi-Medi Diet was stunning. There was a statistically significant 7.1 point difference on Montgomery-Asberg Depression Rating Scale. Number Needed to Treat (NNT) was 4.1 in the case of Modi-Medi Diet. In the case of the popular drug aripiprazole, it was 10. The treatment group remission rate was 32% versus the controlled group at 8%. The foods contributing to bad moods are high-fructose corn syrup, alcohol, sugar, artificial sweeteners, margarine and hydrogenated oils, deli meats, and other processed meats. High-fructose corn syrup, sugar, artificial sweeteners are known to cause brain inflammation as manifested by higher level of tumor cytokines. According to the neurotransmitters, we know that serotonin help us relax and dopamine help us feel more focused. The fast food industry has contributed to increase risk for depression, greater aggression, anxiety and other mental illness by all altering our levels of serotonin and dopamine. Adding insult to injury, chemicals, such as fluoride, lead and other heavy metals, and pharmaceutical residues in our water supply also have a big impact on mood. Fluoride blocks the uptake and production of iodine in the thyroid gland. Iodine deficiency can lead to severe depression. Interesting studies conducted in the detention centers and the schools where sugary beverages and fruit juices were substituted with healthy drinks, and highly processed foods were substituted by raw organic foods, prison inmates behaved much better. Food creating to good moods are: flax seed oil, rich in omega 3; sea weeds, high in iodine; avocado, I call it Gods butter; quality protein; grapefruit, with beneficial flavonoids; Shiitake mushrooms, with vitamin B6; raw nuts with serotonin; wild-caught salmon with vitamin B12, which is very important for our neuronal cell integrity; sesame seeds with Tyrosine; berries, with vitamin A, C, and manganese. A clean water supply

ENDORPHINS & MOOD

Endorphins contribute to dopamine production, serotonin, and oxytocin. They are manufactured by our central nervous system. They have a lot in common with prescription anti-anxiety drugs and opioid pain killers **without the side effects**. Below are some natural ways to increase endorphins; the feel good chemicals.

1) Exercise regularly

2) Consume a healthy diet that includes seeds, nuts, and beans to boost serotonin levels

3) Laugh more

    1. Connect socially

    2. Enjoy romance

5) Learn something new

6) Incorporate soothing tastes, smells, and/or essential oils

7) Connect with nature and spend time in the sun

EXERCISE

Aerobic exercise increases brain-derived neurotrophic factor. Studies reveal the positive effects of exercise with only 15-20 minutes a day, four times per week. According to the SMILES study, 10 months of exercise produced a 70% response versus 48% response with drugs, and relapse rate was 8% with exercise versus 38% with drugs. Qi gong, Tai chi, yoga each have beneficial effects on the brain and body.

LIGHT & ENERGY MEDICINE

Full spectrum light is very therapeutic; especially with a Dawn simulator invented by Russian scientist that simulates Dawn light. According to the NITE-AD study or **nocturnal** insomnia treatment and education for Alzheimer's dementia, exposure to sunlight has positive effects in reducing consumption of sleeping aids and anti-psychotic drugs. Another reason we feel so good while strolling in the beach or by a waterfall is because of negative **ions** being produced by the waves. Cranial electrical stimulation (TCM), acupuncture, and magnet therapies have also shown to be very beneficial therapies. There are a lot of randomized controlled trials underway in these areas.

MEDIATION

Meditation contributes to greater happiness. Our brain has plasticity, and meditation can alter the architecture and functional aspects of our brain. Meditation lowers the stress chemical, cortisol. It also produces effects on our emotional brain and the limbic system. Meditation has positive effects in bipolar disorder, manic depression, eating disorder, anxiety, depression, ADHD, learning disability. It also has a profound effect on memory, focus and cognitive performance.

NUTRITION & SUPPLEMENTS

In a randomized control trial of depressed patient, vitamin C 500 mg b.i.d. for eight days, had a 71% reduction in mood disturbance, 51% reduction in distress.

Fish is not only a brain food, but fish can allay anxiety. In one study, 1.2 g per day of omega-3 EFA was given for 12 weeks, and progression to psychosis was monitored over 40 weeks. The teated group had a beneficial response over placebo. Note: because of today's pollution most fish are now contaminated with high levels of mercury and other heavy metals and plastics.

Vitamin D popularly called 'vitamin' is actually a steroid hormone. It's best source comes from sunshine. Vitamin D levels less than 40 ng/ml are associated with depression. Vitamin D supplementation had a significant reduction in depression.

St. John's wort, 5-HTP, Ginkgo biloba, ginseng, and ginger, vitamin B complex, and folic acid all had beneficial effects. According to the SALSA study or Sacramento Area for Latino Studies on Aging, our soil is essentially devoid of vitamin B6 and just by replenishing vitamin B6 improved the depression scores.

St. John's wort is popularly called a dirty drug which affects the cytochrome P450 system acts like SSRIs.

SAMe (adenosylmethionine) acts like the drug bupropion, works faster, better tolerated with fewer side effects. It enhances methylation in the body and works synergistically with other antidepressants

L-Theanine found in green tea increases GABA, the relaxation near transmitter and dopamine, which helps us to focus. It promotes alpha waves and is neuro protective.

Endocannabinoid receptor CB1-CB2 are found in the brain and throughout the body. Cannabidiol (CBD) reduces social anxiety and seizures, and has positive effects on opioid analgesics withdrawal. According to marijuana investigation for neuroscientific discovery or MIND, there was a 42% reduction in opioid use according to the Harvard McLean Hospital report.

PSYCHOTHERAPY

The role of psychotherapy cannot be undermined, but it needs to be individualized. Cognitive behavioral therapy works better, than SSRIs in many different ways and also has effects on insomnia and pain. DBTs or dialectical behavioral therapy is beneficial in impulsive substance abuse and post-traumatic stress disorder, which is generating a lot of interests. Dialectical behavioral therapy works for:

1) Distress tolerance or feeling intense emotions of anger without reacting impulsively
2) Emotional regulation or recognizing and adjusting emotions
3) Mindfulness
4) Intrapersonal effectiveness in navigating conflicts

STUDIES

The Harvard Gratitude and Happiness study revealed that counting our blessings today can have positive effects on happiness scores in the future. In this study, population groups were split into three groups with 10 weeks of journaling:

The first group, pondered on things to be grateful.

The second group, ruminated in agitated thoughts.

The third group, both positive and negative.

After 10 weeks of journaling, the first group reflected on positive past memories. The second group were present without taking anything for granted, and the third group had a positive outlook for the future. Patients were happier, exercised more, and had fewer visits to physicians

RELATIONSHIPS

Referring to the Harvard study on happiness, Robert Waldinger stated on TED Talks, that great minds build on great relationships. Initially people are driven by money and fame, but over the years, they figured out that positive relationships not only promote longevity, but also happiness and wellbeing. Workmates become playmates. Positive relationships heal; toxic relationships kill. The quality of a relationship is more important then having a quantity of relationships. While one can have a multitude of virtual friends, the friends whom one can have interdependence with and rely upon (who are available during trying times) are the friends that contributes most to one's mental stability.

CONCLUSION:

We know that modern day psychiatry has taken a commercially driven path, and that the diagnosis and the treatment components are not always valid. The popular chemical imbalance theory has been challenged. Thus, we need to have a multi-model, multi orchestrated approach to mental health conditions of our patients. Patients are very unique and multidimensional, and one size does not fit all. Therefore, we must provide education and trust our patients. We need to avoid a unidimensional thinking process and promote balance and homeostasis to our patients. To heal our patients in the pursuit of happiness, we need to have a humanistic and holistic approach to medicine where science means the art of understanding the human complexity and its wholeness.

New Management options for Severe and Refractory Asthma

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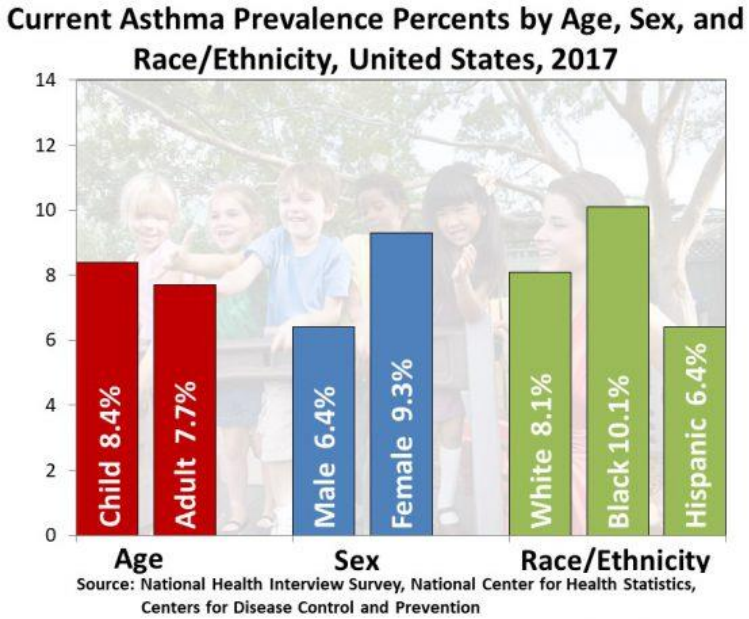
Asthma: NAEPP "Expert Panel Report 3" in 2007 defined asthma as a chronic inflammatory disease of the airways in which many cells play a role, in particular, mast cells, eosinophils, and T - lymphocytes. In susceptible individuals, this inflammation causes recurrent episodes of wheezing, breathlessness, chest tightness, and cough, particularly at night and/or in the early morning. These symptoms are usually associated with widespread but variable airflow limitation that is at least partially reversible either spontaneously or with treatment. This inflammation also causes an associated increase in airway hyper responsiveness to a variety of stimuli.

Asthma is a huge public health problem;

- affects 25 million people, including 6.0 million children under 18;
- is a significant health and economic burden to patients, their families, and society:

- In 2016, 1.8 million people visited an ED for asthma-related care and in 2016, 189,000 people were hospitalized because of asthma



If we see lack of control, we need to evaluate patients with following questions in mind:

- Is the diagnosis correct?
- Is patients taking their medications?
- Is the inhaler technique adequate?
- Are there any allergen exposure?
- Any ongoing nasal symptoms?
- Does the patient have GERD?
- Is the patient obese?
- Any serious complications due to asthma?
- About 10 - 15% patients with asthma remain symptomatic despite maximal standard of care therapy known as “sever”, ”difficult”, ”brittle” or “refractory”

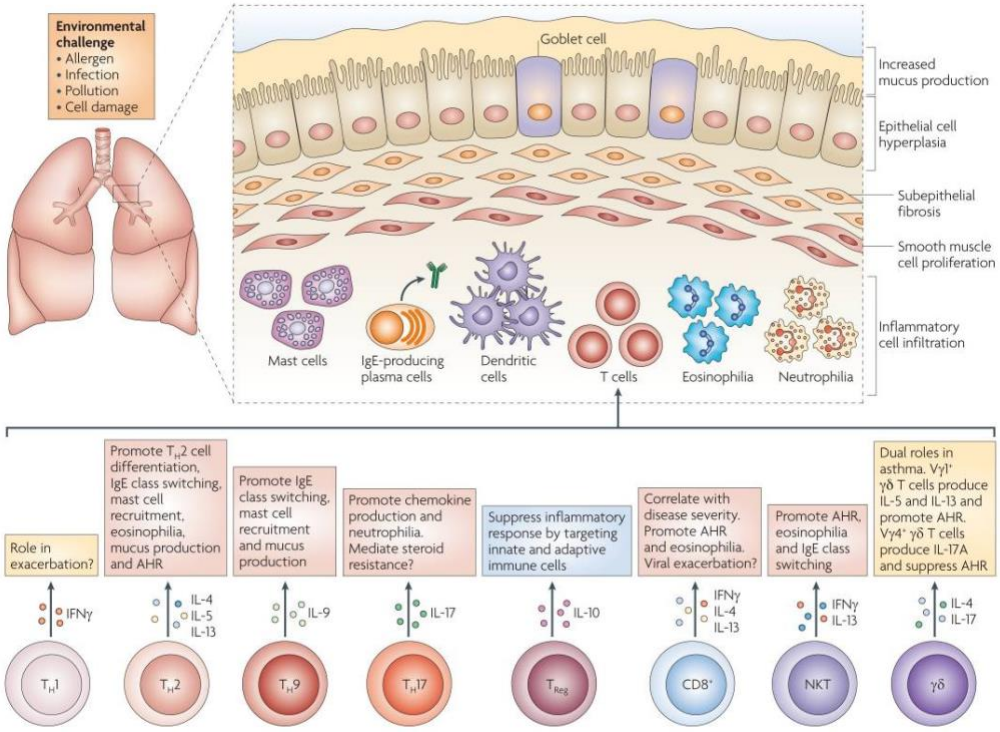
A subset of population is affected by refractory asthma defined as:

- Major Characteristics (only one required)[1]
  To achieve control to a level of mild-moderate persistent asthma:
  1. Need continuous or near continuous (>50%) of year oral corticosteroids
  2. Requirement for high-dose corticosteroids
- Minor Characteristics (requires 2)

1. Requirement for daily controller med in addition to steroid
2. Albuterol used daily or nearly daily
3. Persistent airflow obstruction
4. One or more urgent care visits per year
5. Three or more steroid burst per year
6. Prompt deterioration with < 25% reduction in steroids
7. Near fatal asthma event in past

Before we address the refractory asthma patients, we need to understand the molecular mechanism:

- An important molecular mechanism of asthma is type 2 inflammation
- The type 2 immune response is regulated by subpopulations of T cells known as T helper 2 (T_H2) cells
- Type 2 immune response associates with atopic diseases, such as allergy and asthma. [2]



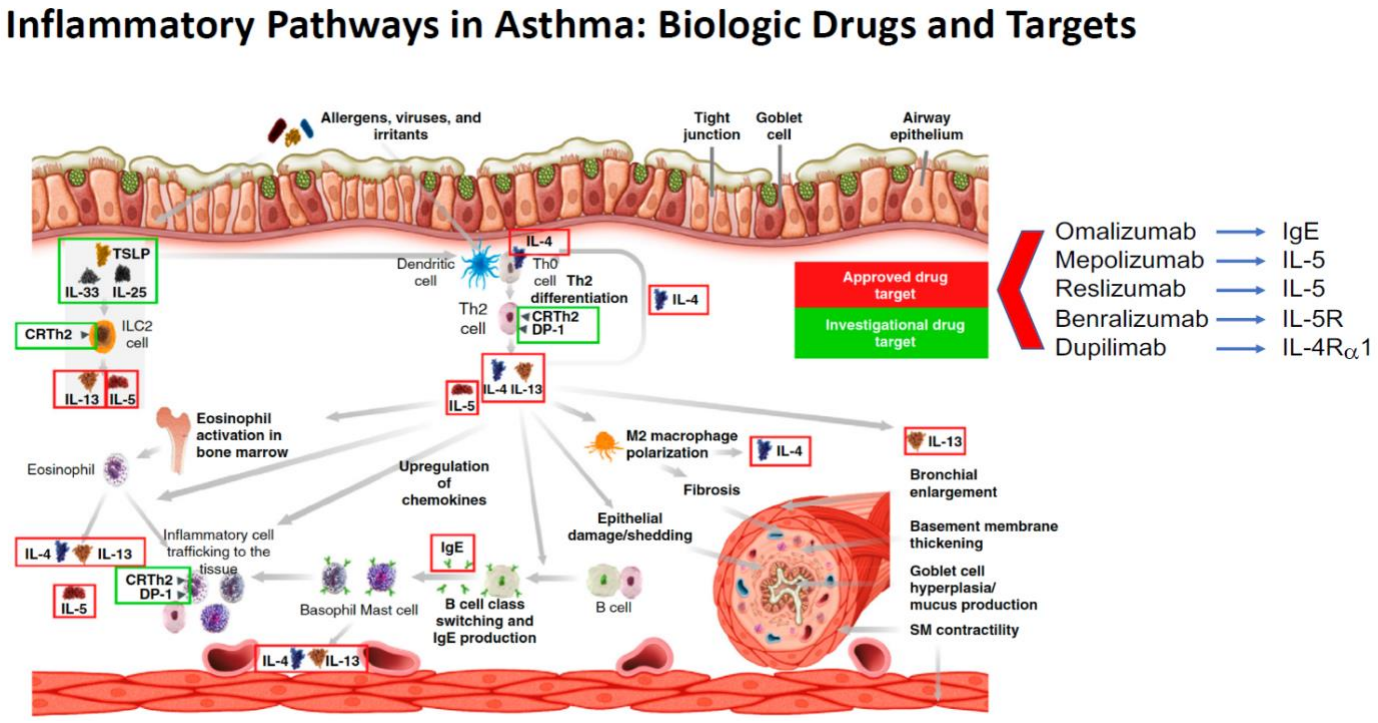
Goals of treatment for refractory asthma,

- Monitor patients on conventional therapy for Asthma or COPD.

- Manage the refractory patients with close monitoring to prevent multiple ER visits or admission.
- Offer state of the art care for the patients
- Evaluate them if they can qualify for newer therapeutic agents like biologics to prevent exacerbations.

- Omalizumab
- Mepolizumab
- Benralizumab
- Dupilumab

Mechanism of actions of the newer biologics in the inflammatory pathway is described in the following illustration3:

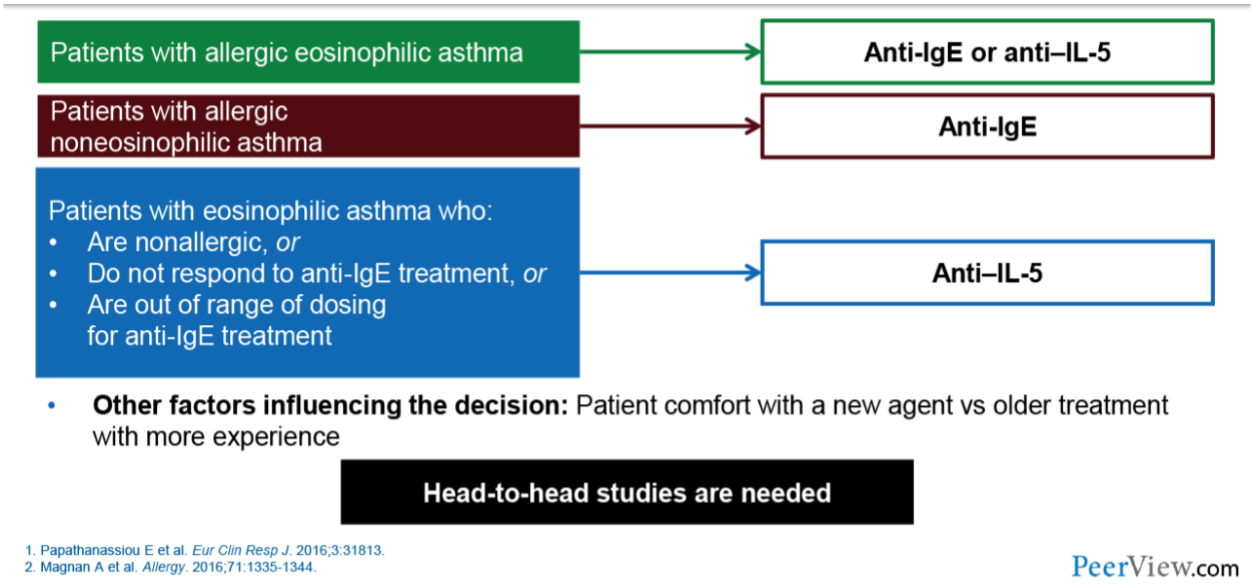


Type 2 Biomarkers [4]:

Table 42-5 Asthma Biomarkers and Associated Phenotypes as Predictors of Response to Specific Therapies

Biomarker	Asthma Phenotype	Predicts
Periostin	Th2 high	Response to anti-IL-13 and IL-4 therapy[112,114]
Elevated exhaled nitric oxide (>50 ppb in adults, >35 ppb in children)	Th2 high	Response to inhaled steroids[52,114]
Sputum eosinophils >3%	Th2 high	Response to inhaled steroids[103-107,109,207]
Peripheral eosinophils (>0.3 × 10^9/L or 300/μL)	Th2 high	Response to anti-IL-5 therapy[99,100,293]
Elevated total IgE > 30 IU	Allergic	Response to omalizumab[111,207]
Allergy skin tests and elevated specific IgE	Allergic asthma with atopy	Response to immunotherapy, omalizumab
Lack of elevated peripheral and sputum eosinophils and low FeNO	Th2 low	Response to tiotropium and macrolides (likely to be poor responders to steroids)[115,214]

Selecting patients for the biologics:



Additional Factors that needs controls are [5]:

Conclusion:

- Evaluating asthma and difficult-to-treat asthma or refractory asthma includes a return to the basic principles of asthma management.
- Common causes of refractory asthma should be identified and addressed.
- Physicians should attempt to assess patient compliance with prescribed therapy and any barriers to compliance.
- If all addressed then alternative treatments should be offered and refer to appropriate trial centers.
- Patients should be referred to specialized center.

It is just the tip of the iceberg!

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5. **ASTHMA: CLINICAL DIAGNOSIS AND MANAGEMENT** NJIRA LUGOGO, MD • LORETTA G. QUE, MD • DANIEL L. GILSTRAP, MD • MONICA KRAFT, MD , Chapter 42, Clinical respiratory medicine

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Fractionated but Not Single-Dose Radiotherapy Induces an Immune-Mediated Abscopal Effect when Combined with Anti–CTLA-4 Antibody

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Purpose: Ionizing radiation therapy is an effective tool for local tumor control, and plays an important role in the treatment of cancers. In the setting of metastatic disease, however, the role of radiotherapy is generally limited to palliation of symptoms. We have previously proposed a partnership between local radiation and immunotherapy in the treatment of cancer.[1] Recent evidence that radiation induces an immunogenic tumor cell death and alters the tumor microenvironment to enhance recruitment of antitumor T cells supports the hypothesis that radiation can enhance both the priming and the effector phase of the antitumor immune response.[2-5] Clinical observations consistent with this hypothesis, however, are very rare. One such observation is known as the "abscopal effect" and refers to tumor regression seen outside the field of radiation, implying an indirect antitumor effect induced by local radiotherapy.[6-9] The paucity of evidence that radiotherapy can promote therapeutically effective antitumor immunity is not surprising, considering that successful vaccination often does not translate into clinical tumor responses.[10] Development of tolerance and immunosuppression in tumor-bearing hosts have been identified as major obstacles to the success of immunotherapy in general[11] and may also impair the immune-mediated abscopal effect induced by radiation.[12] Ipilimumab (Trade name Yervoy) is a monoclonal antibody that works to activate the immune system by targeting CTLA-4, a protein receptor on T-cell that downregulates the immune system. Cytotoxic T lymphocytes (CTLs) can

recognize and destroy cancer cells. However, an inhibitory mechanism interrupts this destruction.[13] Ipilimumab turns off this inhibitory mechanism and allows CTLs to function.[13,14] Ipilimumab was approved by the U.S. FDA in 2011 for the treatment of melanoma, a type of skin cancer.[15,16] It is undergoing clinical trials for the treatment of non-small cell lung carcinoma (NSCLC), small cell lung cancer (SCLC),[17] bladder cancer,[18] and metastatic hormone-refractory prostate cancer.[19] The concept of using anti-CTLA4 antibodies to treat cancer was first developed by James P. Allison while he was director of the Cancer Research Laboratory at the University of California, Berkeley.[20,21] Clinical development of anti-CTLA4 was initiated by Medarex, which was later acquired by Bristol-Myers Squibb. As of 2013 the cost was $120,000 for a course of treatment.[22] For his work in developing ipilimumab, Allison was awarded the Lasker Award in 2015.[23] Allison later was the co-winner of the 2018 Nobel Prize in Physiology or Medicine.[24] This study tested the hypothesis that the type of dose fractionation regimen determines the ability of radiotherapy to synergize with anti–CTLA-4 antibody.

Experimental Design: TSA mouse breast carcinoma cells were injected s.c. into syngeneic mice at two separate sites, defined as a "primary" site that was irradiated and a "secondary" site outside the radiotherapy field. When both tumors were palpable, mice were randomly assigned to eight groups receiving no radiotherapy or three distinct regimens of radiotherapy (20 Gy × 1, 8 Gy × 3, or 6 Gy × 5 fractions in consecutive days) in combination or not with 9H10 monoclonal antibody against CTLA-4. Mice were followed for tumor growth/regression. Similar experiments were conducted in the MCA38 mouse colon carcinoma model.

Results: In either of the two models tested, treatment with 9H10 alone had no detectable effect. Each of the radiotherapy regimens caused comparable growth delay of the primary tumors but had no effect on the secondary tumors outside the radiation field. Conversely, the combination of 9H10 and either fractionated radiotherapy regimens achieved enhanced tumor response at the primary site ($P < 0.0001$). Moreover, an abscopal effect, defined as a significant growth inhibition of the tumor outside the field, occurred only in mice treated with the combination of 9H10 and fractionated radiotherapy ($P < 0.01$). The frequency of CD8+ T cells showing tumor-specific IFN-γ production was proportional to the inhibition of the secondary tumor.

Conclusions: Fractionated but not single-dose radiotherapy induces an abscopal effect when in combination with anti–CTLA-4 antibody in two preclinical carcinoma models. (Clin Cancer Res 2009;15(17):5379–88)

Translational Relevance: Therapeutics targeting immunomodulatory molecules to enhance antitumor immunity, such as the CTLA-4 inhibitory receptor on T cells, are being tested in clinical trials. When used as single agents in metastatic disease, their activity is generally limited to a small fraction of patients, prompting testing in combination with other treatment modalities. We have previously shown that local radiotherapy combined with anti–CTLA-4 antibody induces effective systemic antitumor responses (abscopal effect). Importantly, the preclinical definition of optimal dose and fractionation of radiotherapy

when used in combination with anti–CTLA-4 antibody is an important step to inform the correct design of a clinical trial that translates this experience to patients. Overall, these data support testing the combination of radiotherapy with immunomodulatory antibodies in patients with metastatic disease, and suggest that the schedule and dose per fraction of radiotherapy may be critical determinants of its ability to synergize with immunotherapy.

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Kareem Wahid, the son of Dr. Nurul Wahid (DMC K30) Oncologist in Texas, is a MD-PhD student in Texas with a background in nanoscience interested in applying artificial intelligence to medical imaging. He aims to utilize his graduate studies as an opportunity to apply machine learning to medical imaging with the intention of improving diagnostic and prognostic capabilities of clinicians, particularly in the realm of radiation oncology. Moreover, the overarching aim of his graduate work is to develop interpretable artificially intelligent driven personalized-medicine solutions for the betterment of cancer patient treatment.

Winner of Resident Paper Award 2018

Borderline Personality Features in Inpatients with Bipolar Disorder: Impact on Course and Machine Learning Model Use to Predict Rapid Readmission

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Background: Earlier research indicated that nearly 20% of patients diagnosed with either bipolar disorder (BD) or borderline personality disorder (BPD) also met criteria for the other diagnosis. Yet limited data are available concerning the potential impact of co-occurring BPD and/or BPD features on the course or outcome in patients with BD. Therefore, this study examined this comorbidity utilizing the standardized Borderline Personality Questionnaire (BPQ).

Methods: This study involved 714 adult patients with a primary diagnosis of BD per DSM-IV criteria who were admitted to the psychiatric unit at an academic hospital in Houston, TX between July 2013 and July 2018. All patients completed the BPQ within 72 hours of admission. Statistical analysis was used to detect correlations between severity of BD, length of stay (LOS), and scores on the BPQ. A machine learning model was con- structed to predict the parameters affecting patients' readmission rates within 30 days.

Results: Analysis revealed that the severity of certain BPD traits at baseline was associated with mood state and outcome measured by LOS. Inpatients with BD who were admitted during acute depressive episodes had sig- nificantly higher mean scores on 7 of the 9 BPQ subscales ($P < 0.05$) compared with those admitted during acute manic episodes. Inpa- tients with BD with greater BPQ scores on 4 of the 9 BPQ subscales had significantly shorter LOS than those with lower BPQ scores ($P < 0.05$). The machine learning model identi- fied 6 variables as predictors for likelihood of 30-day readmission with a high sensitivity (83%), specificity (77%), and area under the receiver operating characteristic curve of 86%.

Conclusions: Although preliminary, these results suggest that inpatients with BD who have higher levels of BPD features were more likely to have depressive rather than manic shorter LOS. Moreover, machine learning models may be particularly valuable in identifying patients with BD who are at the highest risk for adverse consequences including rapid readmission.

(*Journal of Psychiatric Practice 2019;25:279–289*)

KEY WORDS: bipolar disorder, borderline personality disorder, Borderline Personality Questionnaire (BPQ), predictive analytics, artificial intelligence, machine learning

There is considerable overlap in symptoms between bipolar disorder (BD) and borderline personality disorder (BPD). Features such as impulsivity, mood instability, inappropriate anger, suicidal behavior, and unstable relationships are shared between BD and BPD, although patients with BPD tend to show higher levels of impulsiveness and hostility than patients with BD.[1] In the largest published review related to BD and BPD, Paris et al[2] analyzed data

symptoms, fewer psychotic symptoms, and a

from over 145 reports and concluded that up to 20% of the patients diagnosed with either BD or BPD met criteria for both diagnoses. There are also substantial data supporting shared risk factors between BD and BPD.[3–5] Despite the fact that both BD and BPD are severe psychiatric disorders associated with chronic clinical courses, significant functional impairment, and long-term treatment, fewer data are available concerning the potential impact of comorbid BPD on the course and/or prognosis of BD. Most of the reported studies have suggested that the presence of comorbid BPD has a negative impact on the course of BD, including an earlier age of onset, longer episodes, less time euthymic, and increased rates of substance abuse, suicidality, and aggression.[6,7] However, because most patients with BD (~80%) do not meet full criteria for BPD, investigation of the potential impact of borderline personality features on the course of illness in BD may prove to be more helpful. Fonseka et al[8] reported that high rates of certain borderline personality spectrum symptoms in adolescents with BD were associated with greater severity of mood symptoms and functional impairment. Riemann and colleagues[9] recently conducted the largest reported study examining the potential impact of individual borderline personality features on prospective illness course in patients with BD (N = 375). They found that the presence of greater borderline personality features in general was associated with an unfavorable illness course of BD. Moreover, 3 individual borderline personality features (affective instability, impulsivity, and self-mutilation/suicidality) were associated with both rapid cycling BD and BPD.[9]

The study described in this article utilized the Borderline Personality Questionnaire (BPQ), a standardized scale, to examine the comorbidity and potential impact of BPD features on course and outcome in psychiatric inpatients with BD. The BPQ is an 80-item self-report measure that assesses borderline personality traits as defined by DSM-IV criteria.[10] The BPQ has 9 separate subscales for each BPD criterion: Impulsivity (I), Affective instability (AI), Abandonment (A), Relationships (R), Self-Image (SI), Suicide/Self-mutilation (S/SM), Emptiness (E), Intense anger (IA), and Quasi-Psychotic (Q-P). The BPQ has demonstrated internal consistency and convergent and divergent validity in both general and clinical populations and has been found to be a useful tool in screening for borderline personality traits in numerous studies.[10–12]

In addition to examining the prevalence of BPD in BD, this study was designed to examine the potential impact of BPD as well as borderline personality features (as defined by the individual BPQ subscales) on the clinical course of patients with BD hospitalized for acute mood episodes. While clinical course can be assessed using numerous variables, length of hospital stay (LOS) and readmission rates are generally accepted as the most critical measurable outcomes in inpatient settings.[13] LOS is a considered a reliable measure of the amount of resources utilized.[14–17] Earlier research has also demonstrated a significant association between LOS and psychiatric diagnosis,[18–20] with some data suggesting that a psychosis diagnosis is responsible for the highest LOS,[21–23] whereas other studies have reported that affective disorder diagnoses were more reliable predictors of LOS.[24–26] Substance use disorder diagnoses were negatively correlated with LOS in another study.[27] Although personality disorders are rarely the primary diagnosis in inpatient settings, there are relatively few data concerning their potential impact as a comorbid diagnosis on LOS. The study described here used conventional statistical analyses to investigate the prevalence of BPD in inpatients with BD as well as the potential relationships among BD severity, the BPQ total and subscale scores, and outcome as measured by LOS.

Because 30-day readmission rates have become one of the most popular parameters for assessing quality and efficacy of psychiatric inpatient care, the identification of factors that may prove useful in identifying patients at high risk for rapid readmission represents a compelling target for research efforts.[28–30] Given these issues related to readmissions, this study also examined whether a machine learning model could be successful in using clinical, sociodemographic, and BPQ data to successfully predict which patients with BD would be at high risk for readmission within 30 days.

METHODOLOGY

Study Design and Population

This study involved 714 adult (18 y of age and older) patients with a primary diagnosis of BD per DSM-

IV criteria admitted to the same psychiatric unit at an inner-city academic hospital in Houston, TX between July, 2013 and July, 2018. All subjects in the study completed the BPQ within 72 hours of admission. All study participants were interviewed and examined by a board-certified physician (T.P.) and had a primary diagnosis per DSM-IV-TR criteria of bipolar I disorder (BD I), bipolar II disorder (BD II), or BD not otherwise specified (BD-NOS). Baseline demographic data and information on clinical outcomes were obtained during hospital assessment and from review of electronic medical records. The study was approved by the institutional review board (IRB) of the University of Texas Health Science Center, Houston. Individual consent was waived by the IRB as data were being collected through retrospective chart reviews. Patients with diagnoses of intellectual deficit disorder, dementia, significant cognitive dysfunction, and/or other comorbid psychiatric diagnoses were excluded from study participation. In addition, patients who were illiterate or had less than a third-grade education were also excluded.

Assessment

Demographic information was collected for all participants including age, sex, and race. The BPQ consists of 80-items that assess the severity of 9 subscales: Impulsivity (I), Affective instability (AI), Abandonment (A), Relationships (R), Self-Image (SI), Suicide/Self-mutilation (S/SM), Emptiness (E), Intense anger (IA), and Quasi-Psychotic (Q-P). Total BPQ scores as well as individual scores on each of the 9 severity subscales were calculated for all participants.

Statistical Analysis

Analyses were conducted for all patients who completed the BPQ. Between-group differences were compared using Pearson χ^2 tests for categorical variables, and *t* tests for continuous variables presented as means ± SDs. Demographic data were analyzed using χ^2 and analysis of variance tests. Regression analyses were used to test the correlations between BPQ scores and length of stay (LOS) and 30-day readmission rates. All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS), version 22.

Machine Learning

The 714 inpatients with BD who were included in the analysis were randomly split into a training set (n = 499) and a testing set (n = 215). Scores on the 9 subscales of the BPQ (I, AI, A, R, SI, S/SM, E, IA, Q-P) and 5 clinical variables (sex, age, diagnosis, LOS, number of admissions at BPQ baseline) acted as features—"independent/input variables"—to the model, while 30-day readmission status acted as the target "dependent/output" variable. The online freely available Python software version 2.7 was used for coding the algorithm. Synthetic minority oversampling technique (SMOTE) was applied to the testing set to ensure an equal class distribution of the readmission output variable. A support vector machine (SVM) classifier was trained with the training set utilizing the top 6 features determined by analysis of variance *F*-score feature selection. The SVM classifier was then evaluated with the testing set.

RESULTS

Demographic Data

Table 1 presents the demographic data for the BD study sample (n = 714). There were 375 females (52.5%) and 339 males (47.5%). The mean age was 33.04 years (SD: 10.55 y). The BD sample was comprised of 402 (56%) Caucasians, 254 (36%) African Americans, 41 (6%) Hispanics, 14 (2%) Asians, 2 (0.3%) Native Americans, and 1 (0.1%) Other. The most common primary diagnosis was BD I (n = 471, 66%) followed by BD-NOS (n = 207, 29%) and BD II (n = 36, 5%). In terms of mood state at admission, the inpatients with BD-I were more likely to be in a manic (n = 247, 52%) or mixed (n = 122, 26%) episode than in a depressed episode (n = 102, 22%). The mean total BPQ score was 30.63 ± 18.7. On the basis of the BPQ criteria for BPD (total BPQ score ≥ 56), ~14% (n = 99) of the entire BD inpatient sample also met criteria for BPD. No significant effects of age, sex, or ethnicity were identified on the BPQ total or subscale scores in the BD inpatient sample.

BPD in BD Subgroups, Borderline Personality Features, and Mood State in BD

Approximately 16% (n = 34) of the 207 inpatients with a primary diagnosis of BD-NOS, ~13% (n = 59) of

TABLE 1. Demographic Data and Clinical Characteristics of the Sample (N = 714)

Sex [n (%)]	
Females	375 (52.5)
Males	339 (47.5)
Age [mean (SD) = 33.04 y of age (10.55 y)] [n (%)]	
18-29 y	319 (44.7)
30-39 y	222 (31.1)
40-49 y	108 (15.1)
50-59 y	55 (7.7)
60 y and above	10 (1.4)
Ethnicity [n (%)]	
Caucasian	402 (56.3)
African American	254 (35.6)
Hispanic	41 (5.7)
Asian	14 (2.0)
Native American	2 (0.3)
Other	1 (0.1)
Bipolar subtypes [n (%)]	
BD I Manic with psychosis	235 (32.9)
BD I Manic without psychosis	12 (1.7)
BD I Depression with psychosis	65 (9.1)
BD I Depression without psychosis	37 (5.2)
BD I Mixed with psychosis	96 (13.4)
BD I Mixed without psychosis	26 (3.6)
BD-NOS	207 (29)
BD II	36 (5.0)
Length of stay (LOS) (mean ± SD) (d)	8.14 ± 5.2
30 d readmissions [n (%)]	
Yes	63 (8.8)
No	651 (91.2)

BD indicates bipolar disorder; BD-NOS, bipolar disorder not otherwise specified.

the 471 inpatients with a primary diagnosis of BD I, and ~17% (n = 6) of the 36 inpatients with a primary diagnosis of BD II also met criteria for BPD per the BPQ criteria (total BPQ score ≥56). In addition, those with a primary diagnosis of BD-NOS had significantly higher ($P < 0.05$) total BPQ scores (mean ± SD: 32.68 ± 19.5) compared with the BD I group (29.35 ± 18.3). Analysis of the individual BPQ subscales revealed that the BD-NOS group had significantly greater ($P < 0.05$) borderline personality features as measured by 3 of the 9 BPQ subscales: Suicide/Self- mutilation (mean ± SD: 2.9 ± 2.2 vs. 2.5 ± 2.2), Emptiness (3.9 ± 3.2 vs. 3.2 ± 2.9), and Intense anger (4.2 ± 3.2 vs. 3.6 ± 2.9) (Fig. 1).

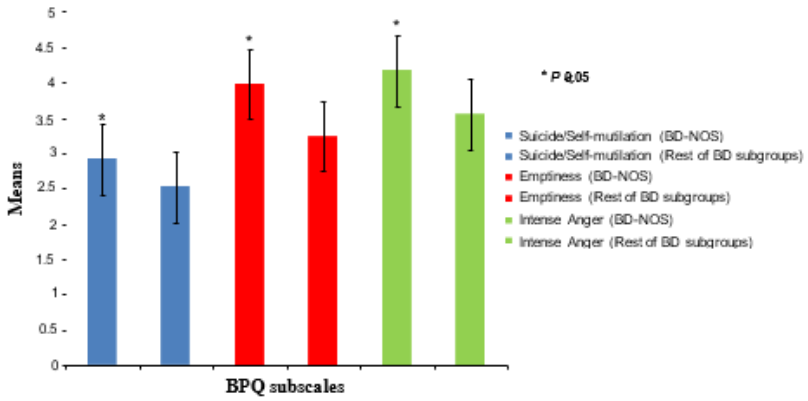
Prevalence rates for BPD based on total BPQ scores were also examined by mood state (manic, mixed, or depressed) as well as by the presence or absence of psychotic symptoms in the BD I group. As noted above, most (52.4%) of the patients with BD I were admitted during a manic episode, compared with 26% and 22% admitted during a mixed or depressive episode, respectively. Of the patients with BD I, 11.1% of the 247 patients admitted during a manic episode also met criteria for BPD, compared with 9.1% of the 122 patients admitted in a mixed episode and 9.8% of the 102 patients admitted in a depressed state. Analysis of variance of total BPQ scores also revealed that patients admitted in a depressive state had significantly higher mean BPQ scores than those admitted in a manic state (mean ± SD: 38.5 ± 19.8 vs. 24.8 ± 16.4, $P < 0.05$). In addition, scores on 7 of the 9 BPQ subscales were significantly higher in the patients with BD I admitted in a depressive state compared with those admitted in a manic state: Affective instability (6.38 ± 3.3 vs. 4.21 ± 3.2), Abandonment (4.88 ± 3.4 vs. 3.15 ± 2.8), Suicide/Self-mutilation (3.43 ± 2.3 vs. 2.02 ± 2.0), Self-Image (3.6 ± 2.6 vs. 1.8 ± 1.9), Emptiness (4.78 ± 3.2 vs. 2.53 ± 2.6), Intense anger (4.65 ± 3.1 vs. 3 ± 2.6), and Quasi-Psychoticism (2.71 ± 1.9 vs. 1.76 ± 1.7) (Fig. 2).

Psychosis and BPD Prevalence and Features

Psychotic symptoms were very common (84%, n = 396) in the inpatients with BD I regardless of mood state and appeared to be associated with a decreased risk that the patients would also meet criteria for BPD. That is, patients admitted in a manic state without psychotic symptoms were more likely to also meet criteria for BPD than those admitted in a manic state with psychotic symptoms (16.7% vs. 6.4%). Similarly, comorbid BPD was more common in patients admitted in a mixed state without psychotic symptoms (30.8%) than with psychosis (11.5%) and in patients admitted in a depressed state without (24.3%) than with psychosis (21.5%) (Table 1 and Fig. 3).

Further stratification and analysis of the mean BPQ scores in the BD I group identified an inverse relationship between psychosis and BPQ scores; that is, in general, the patients with psychotic symptoms had significantly lower BPQ scores than those without psychosis (mean ± SD: 28.28 ± 17.7 vs. 35.03 ± 20.1, $P < 0.05$).

FIGURE 1. Inpatients with BD-NOS showed significantly higher BPQ scores on 3 subscales compared with the rest of the BD subgroups.

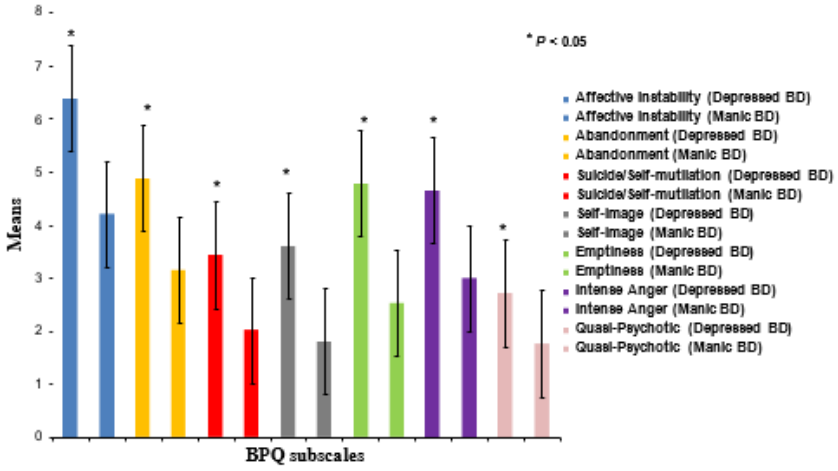


BD indicates bipolar disorder; BD-NOS, bipolar disorder not otherwise specified; BPQ, borderline personality questionnaire.

BPQ and LOS

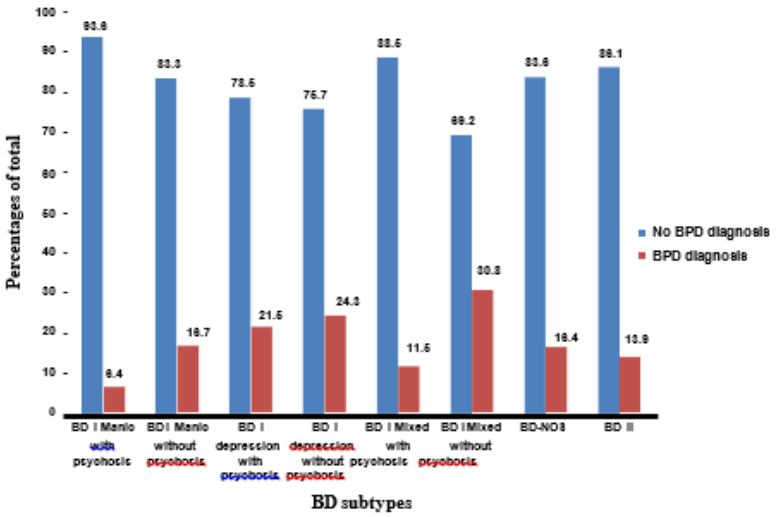
Multiple regression analysis was conducted to analyze any potential relationship between borderline personality features and outcome as measured by LOS. There was a significant inverse relationship identified between the mean BPQ total score and LOS. Greater BPQ scores were associated with shorter LOS ($\beta = -0.023$, $P = 0.03$, $F = 4.737$, $R^2 = 0.007$, $R^2_{\text{adjusted}} = 0.005$). Subsequent stepwise analysis of each of the BPQ subscales

FIGURE 2. Acutely depressed inpatients with BDI showed significantly higher BPQ scores on 7 subscales compared with acutely manic patients.



BD indicates bipolar disorder; BD I, bipolar I disorder; BPQ, borderline personality questionnaire.

FIGURE 3. Prevalence of a BPD diagnosis in each BD subtype.



BD indicates bipolar disorder; BD I, bipolar I disorder; BD II, bipolar II disorder; BD-NOS, bipolar disorder not otherwise specified, BPD, borderline personality disorder.

identified 4 subscale scores that were negatively associated with LOS: Affective instability ($\beta = -0.167$, $P = 0.003$, $F = 8.702$, $R^2 = 0.012$, $R^2_{\text{adjusted}} = 0.011$), Relationships ($\beta = -0.188$, $P = 0.035$, $F = 4.485$, $R^2 = 0.006$, $R^2_{\text{adjusted}} = 0.005$), Suicide/Self-mutilation ($\beta = -0.285$, $P = 0.001$, $F = 10.498$, $R^2 = 0.015$, $R^2_{\text{adjusted}} = 0.013$), and Intense anger ($\beta = -0.129$, $P = 0.046$, $F = 4.013$, $R^2 = 0.006$, $R^2_{\text{adjusted}} = 0.004$). Of these subscales, the Suicide/Self-mutilation subscale had the most significant relationship ($F = 10.498$, $P = 0.001$).

Machine Learning Model and 30-Day Readmission Rates

While most of the patients in this sample were not rapidly readmitted to our facility, 63 patients (8.8%) did require readmission within 30 days. Using a machine learning model, we found that 6 variables (total number of admissions, the BPQ Suicide/Self-mutilation Subscale, the BPQ Self-Image Subscale, LOS, sex, and age) predicted 30-day readmission with calculated F-scores of 30.2, 11.9, 8.0, 7.8, 7.7, and 7.4, respectively (Fig. 4). Spearman correlation analysis of the model revealed that younger age ($r = -0.03$), reduced LOS ($r = -0.02$), a higher score on the BPQ Suicide/Self-mutilation Subscale ($r = 0.05$), a higher score on the BPQ Self-Image Subscale ($r = 0.06$), female sex ($r = 0.05$), and a greater number of previous admissions ($r = 0.2$) were associated with a greater risk for readmission at 30 days. In fact, the SVM classifier demonstrated high sensitivity (0.83), good specificity (0.77), and an area under the receiver operating characteristic curve of 0.86. These results indicate that our machine learning model was able to accurately identify 6 key variables for rapid readmission with "good" predictive validity (Fig. 5).

A separate conventional statistical analysis was also conducted to further investigate the potential relationship between 30-day readmission and number of previous admissions. Regression analysis demonstrated that a greater number of previous admissions was associated with an increased risk of 30-day readmission ($\beta = 0.099$, $P = 0.003$, $F = 25.682$, $R^2 = 0.011$, $R^2_{\text{adjusted}} = 0.025$). Individual analysis of the receiver operating characteristic area under the curve for the 3 strongest variables (previous admissions, BPQ Suicide/Self-mutilation

FIGURE 4. Machine learning model and selection of features.

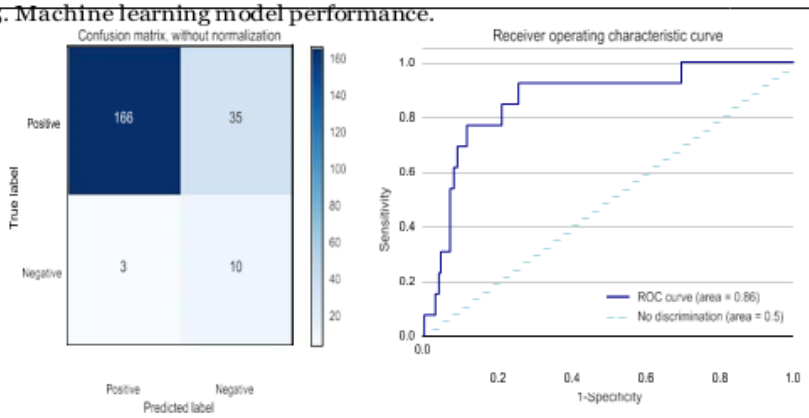
S/SM indicates the Suicide/Self-mutilation Subscale; S-I, Self-Image Subscale; LOS, length of stay; S, sex; Admit # at BPQ, number of admissions at baseline when the borderline personality questionnaire was administered.

Subscale, and BPQ Self-Image Subscale) associated with 30 day readmission as identified by the machine learning model revealed predictive values of 0.68, 0.55 and 0.56, respectively (Fig. 6).

DISCUSSION

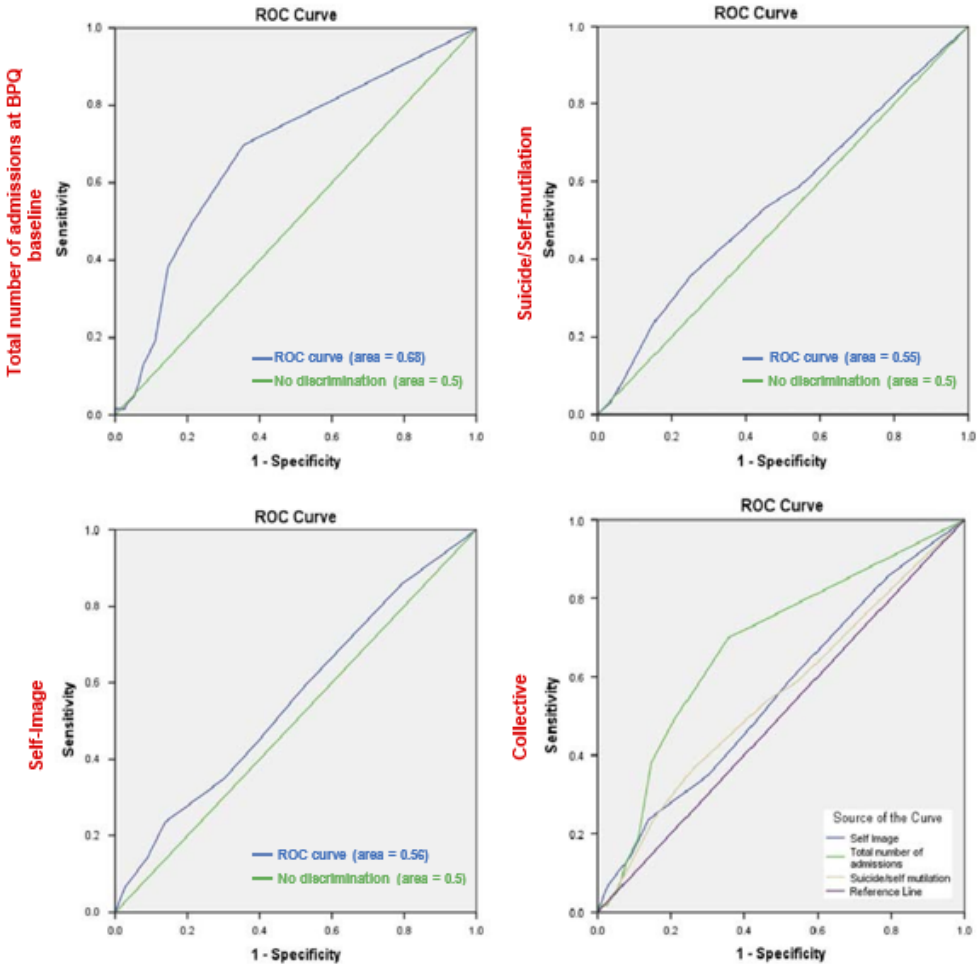
The prevalence of BPD (14%) found in this study of inpatients with BD was on the higher end of the range reported in previous studies (in which prevalence ranged from 5.6% to 16.1%), but our study was limited to an inpatient setting, whereas the other studies included other clinical settings. This difference in prevalence may reflect the greater clinical severity required for treatment in an inpatient setting. In fact, 84% of patients in our BD I group had psychotic symptoms. The prevalence of BPD in our inpatients with BD II (almost 17%) was at the upper end of the range reported in previous studies (in which prevalence ranged from 8% to 19%)[31–38]; however, our sample size

FIGURE 5. Machine learning model performance.



ROC curve indicates receiver operating characteristic curve.

FIGURE 6. ROC curves for top 3 features determined by the machine learning model.



ROC curve indicates receiver operating characteristic curve.

was relatively small (n = 36) especially compared with the size of our BD I (n = 471) and BD-NOS (n = 207) groups. Interestingly, we found that the BD-NOS group was more likely than the BD I group to have comorbid BPD. Although the criteria for DSM-IV BD-NOS specified that the patient does not meet criteria for BD I or BD II, it does allow for diagnosis of a BD with atypical presentations or when differ- entiation from a substance-induced mood disorder or mood disorder due to general medical condition is not possible. As such, the underlying factors contributing to BD-NOS are generally accepted as being distinct from those in other BD subgroups.[39,40] Moreover, comorbid substance abuse disorders are common in all patients with BD including those with BD-NOS.[41–43]

This study utilized the BPQ, a standardized self-report measure comprised of subscales corresponding

to the 9 DSM-IV BPD criteria. Since its development by Poreh et al in 2006,[10] the BPQ based on DSM-IV criteria has been considered a very useful tool in screening for borderline personality traits in both general and clinical populations.[44] Multiple studies have demonstrated that the BPQ has a high degree of validity and reliability, with a few exceptions, in particular the Quasi-Psychotic States Subscale.[12] When compared with the Minnesota Multiphasic Personality Inventory (MMPI), BPQ showed significantly high convergent validity with a high coefficient (r = 0.85).[12] Other studies have concluded that the BPQ has the optimal mix of characteristics, with moderate sensitivity (68%), high specificity (90%), and high negative predictive value (91%).[45] Compared with the McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD), the BPD items from the International Personality Disorder Examination Screening Questionnaire, and the BPD items from the Structured Clinical Interview for DSM-IV Axis II disorders (SCID-II), the BPQ had the highest overall diagnostic accuracy of 85%.[45]

In the sample of inpatients with BD I in this study, psychotic symptoms were very common (84%, n = 396) regardless of mood state. Our original hypothesis in planning the study was based on the suggestion that mood states complicated by psychotic symptoms would have higher rates of comorbid BPD. However, further analysis of mean total BPQ scores indicated that greater levels of borderline personality features were associated with significantly fewer psychotic symptoms. This finding may suggest that the presence of borderline personality features rather than symptoms that meet full criteria for BPD may represent more of a trait than a state phenomenon. In other words, our findings suggest that the presence of some borderline personality traits, even if not sufficient for a full diagnosis of BPD, are likely to be associated with the presence of fewer psychotic symptoms, with a larger number of traits trending toward a full diagnosis of BDP being associated with an increasingly smaller number of psychotic symptoms.

In addition to examining the prevalence of BPD in inpatients with BD, this study also examined the potential impact of BPD as well as borderline personality features (as defined by the individual BPQ subscales) on the clinical course of patients with BD hospitalized for acute mood episodes. LOS and 30-day readmission rates were used to assess clinical outcome. Not only were higher scores on the BPQ associated with a shorter LOS in our study, but higher scores on certain borderline personality traits [BPQ subscales of Affective instability (AI), Relationships (R), Suicide/Self-mutilation (S/SM), and Intense anger (IA)] were also associated with shorter LOS.

The promise of using artificial intelligence in medicine to enhance diagnostic and prognostic accuracy may well prove limitless.[46] Given the complex heterogenous pathophysiology underlying psychiatric disorders, machine learning models may provide the best chance for developing novel statistical approaches capable of extrapolating patterns across different data sets (cross-validation) en route to the pursuit of personalized psychiatry.[47–49] Unlike conventional statistical methods, machine learning techniques can harness the general principles of underlying complex observations without making undo assumptions. In addition, machine models allow the data to self-represent while managing extensive amounts of heterogeneous data resulting in multiclass predictions.[50,51]

In this study, the machine learning algorithm demonstrated 86% accuracy in predicting 30-day readmissions in inpatients with BD using 6 varia- bles: total number of admissions, the BPQ Suicide/ Self-mutilation Subscale, the BPQ Self-Image Sub- scale, LOS, sex, and age. Specifically, the model demonstrated that lower age, reduced LOS, a higher score on the BPQ Suicide/Self-mutilation Subscale, a higher score on the BPQ Self-Image Subscale, female sex, and a greater number of pre- vious admissions could be used with 86% accuracy to predict patients at high risk for readmission within 30 days.

Limitations

The limitations of this study included use of a self-report measure for diagnosis of BPD. The study also used a retrospective study design, which introduces multiple potential biases, including incomplete documentation, missing data, difficulty interpreting information found in the documents, and problematic verification of information. The study was also limited to patients treated in an inpatient setting, which may reduce the generalizability of the results to other clinical settings. In addition, machine learning models have known limitations and

challenges such as reproducibility; small sample sizes may also exacerbate data noise and lead to over-fitting (over-estimation), and the variable course of psychiatric illness may further complicate disease trajectories.

CONCLUSIONS

Although preliminary, the results presented here suggest that inpatients with BD with greater levels of BPD features were more likely to have depressive rather than manic symptoms, fewer psychotic symptoms, and a shorter LOS. A machine learning model identified 6 variables, including 2 subscales on the BPQ, that were highly predictive of readmission within 30 days of discharge. Given that inpatient treatment is one of the largest direct costs associated with the treatment of BD, machine learning models may be particularly valuable in identifying patients with BD who are at the highest risk for adverse consequences, including rapid readmission.

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Farzana Hoque Sharmy MD, Assistant professor, Saint Louis University. Achieved the "Young Achiever" award from the American College of Physicians (ACP) for 2 consecutive years.

Residency Memories:

I completed the three years of my internal medicine residency at St. Luke's Hospital. The program has a 4:1 system where residents are assigned 4 weeks on an inpatient service and then one week in the outpatient clinic. I believe as a resident it is important to participate in every didactic activity that is available, both for mastering clinical skills and for board exam preparation. The residency experience is intense, and it demands patience and near-total personal commitment. I used to go to the hospital at least 30 minutes early when I was on floor rotations simply to review the patients' charts before we made rounds. Treating the nursing staff with great respect and thoughtfulness makes your life in the hospital run so much more smoothly. The same is true of all your relationships with colleagues and the entire staff, and that includes the ward clerks and housekeepers. The faculty is aware that you do not know everything. It is critical to develop a sense of when to ask for help from your seniors and attendings. I had an opportunity to moonlight during my 3rd year which I think helped me make a smooth transition to becoming an attending at the university hospital. Sure, all the residents made all kinds of personal sacrifices but what made the experience tolerable was our teamwork, some very exciting life and death experiences, and the fact that every day we were enjoying our work.

Sreyoshi Fatima Alam, Residency applicant

Teaching Assistant

Department of Clinical Skills,

College of Medicine

Riyadh, Kingdom of Saudi Arabia

To international medical students and graduates, US clinical experience is invaluable. I was fortunate to be granted the opportunity to complete a month of clinical rotation at IU Health Arnett Hospital, thanks to Dr. Islam, who was kind enough to accept me for the rotation.

I rotated in the inpatient as well as outpatient departments of critical care, pulmonology as well as cardiology with Dr. Islam and Dr. Hoque respectively.

This has been a genuinely educational experience and has strengthened my resolve to pursue a career in internal medicine.

I got to learn first-hand, the basics of inpatient operation of the hospital, especially in the ICU setting. The teamwork at the ICU is commendable. I improved my skills regarding the intricacies of handling cases starting from history taking, physical examination, and note taking as well as devising a management plan for patients. Another very important aspect I learnt during my rotation, is effective

communication with the patient and family members. This was my first encounter with the ABCDEF bundle in critical care. I have now seen the benefit of involving family members during the ICU rounds.

Another major learning point that I have strengthened through this rotation, is the ability to dissect and decipher complex lab work and imaging of ICU patients. Interpretation of arterial blood gases has now become a walk in the park.

In pulmonology, I came across the common outpatient presentations that a physician should be competent to deal with on a day to day basis. Through thorough practice of PFT interpretations taught to us by Dr. Islam I am fairly confident in dealing with pulmonary function tests now.

I have also come across several inpatient cases and procedures and one that stands out in my mind's eye was a case of hemoptysis with the novel use of aerosolized tranexamic acid, which is a new addition in the field and we have had the opportunity to write a case report on it.

Cardiology is a complex and highly specialized field, but I enjoyed it, nonetheless. I attended numerous interventional procedures performed by Dr. Hoque and chanced across several STEMI cases and observed the benefits of timely intervention. Besides learning the basic cases of cardiology, I also spent a part of the time, learning to interpret echocardiograms and nuclear scans and multitude of other day to day dealings in cardiology both in the inpatient and outpatient setting.

It was an honor to have had the opportunity to work with two amazing, kind and thoughtful physicians. Most importantly, I have learnt what it means to be a good mentor and I hope to do the same for my juniors one day.

Literature:

Professor Dr. Ziauddin Ahmed, Drexel University

মুক্তিযুদ্ধের স্মৃতি

ডাঃ জিয়াউদ্দীন আহমদ

ফিলাডেলফিয়া, আমেরিকা।

সময়টা ৭১ এর এপ্রিল মাসের মাঝামাঝি। লেফটেনেন্ট হেলাল মুর্শদের (অবঃ মেজর জেনারেল) নেতৃত্বে ১৪ জন সৈনিক

নিয়ে একটা স্পেশাল প্ল্যাটুন গঠন করা হয়েছে। যার দায়িত্ব হবে অনবরত শত্রুর কাছাকাছি বিচরণ করা এবং সুযোগ

বুঝে বার হামলা চালানো। সারাক্ষণ শত্রুকে ব্যাস্ত রাখলে তারা দূর্বল হয়ে পড়বে এবং রেগুলার বাহিনী নিয়ে ক্যাপ্টেন

নাসিম সহজেই মুখোমুখি যুদ্ধে শত্রুকে ঘায়েল করতে পারবেন। আমরা ছাত্র তিন বন্ধু ছাড়া আর সবাই ২য় ইস্ট বেঙ্গল

রেজিমেন্টের বাছাই করা যোদ্ধা। ক্যাপ্টেন নাসিম (অবঃ লে জেনারেল ও সামরিক প্রধান) মাধবপুরে ঘাটি করেছেন

শত্রুর মুখোমুখি। ঠিক হল শাহবাজপুর ব্রীজে দখলকৃত পাকিস্তান বাহিনীর ঘাঁটির উপর রেইড করতে হবে। স্পেশাল

প্ল্যাটুনের এবং তার সাথে আমার প্রথম অপারেশন। স্থানীয় একটি ছেলে পথ দেখিয়ে নিয়ে যাবে। আমাদের চলতে হবে

রাতের অন্ধকারে। কাক পক্ষীতেও যেন টের না পায়। শত্রু কে পাশ কাটিয়ে পিছনে গিয়ে অতর্কিতে চালাতে হবে

আক্রমণ তারপর দ্রুত ফিরে আসতে হবে ঘাঁটিতে। সেদিন ছিল অমাবস্যা, নিকষ কালো রাত। বৃষ্টি থেমে গেছে ততক্ষণে,

কিন্তু মেঠো পথ কাদায় একাকার। সমস্ত রাত আমাদের হাটতে হবে পথ। গ্রামের ভিতর দিয়ে, মানুষের উঠান পেরিয়ে,

কখনো ঘরের কিনার ঘেসে সন্তর্পনে নিঃশব্দে এগিয়ে চলেছি আমরা। পরনে আমাদের লুঙ্গি ও সার্ট এবং খালি পা।

পিঠের মাঝে আমার ঝুলানো চাইনিজ লাইট মেশিনগান ও দুইটি ভারি ম্যাগাজিন, কোমরে আটা দুটি গ্রেনেড। কথা বলা বা

শব্দ করা বারন তাই একজনের পিঠে রাখা আছে আরেকজনের হাত নাহলে নিঃছিদ্র অন্ধকারে দল থেকে হারিয়ে যাওয়ার

সম্ভাবনা। ঝানু সৈনিকদের হাঁটার সাথে তাল মেলাতে না পেরে দুবার আমি হারিয়ে গেলাম। বাধ্য হয়ে পাখীর ডাকের

সঙ্কেত দিয়ে আবার মিলিত হলাম। ভোর হওয়ার আগেই আমরা শাহবাজপুর ব্রিজের কাছে চলে এসেছি। আগের

পরিকল্পনা অনুযায়ী একটা টিনের মসজিদের ভিতর সবাই আশ্রয় নিলাম। গ্রামের বেশির ভাগ মানুষই পালিয়ে গেছে।

প্রচুর বাড়ি ঘর ভস্মীভূত। বুঝলাম শূন্য গ্রামে এই পরিত্যাক্ত মসজিদই দিনের আলোতে গা ঢাকা দেয়ার জন্য সবচেয়ে

নিরাপদ স্থান। আমাদের অপেক্ষা করতে হবে রাতের জন্য। লেঃ মুর্শেদ দুজন সাহসী হাবিলদারকে রেজি করতে

পাঠালো। তারা চাষীর ছদ্মবেশে দুটো গরুকে তাড়িয়ে ব্রিজের কাছে গিয়ে শত্রুর ঘাঁটির অবস্থা, মেশিন গানের পোস্ট এবং

আমাদের উতড্রলের (নির্গমণের) সম্ভাব্য পথ নির্ধারন করে আসলো। সারা রাত ভারী অস্ত্র কাঁধে নিয়ে পথ চলে

শক্ত ধূলিময় মেজেতে অনায়াসে ঘুমিয়ে পড়লাম। বিকেলে যখন ঘুম ভাঙল তখন দেখলাম কলা পাতার উপর গরম ভাত

আর ডাল বাড়া হয়েছে। গ্রামের কারও বাড়ি থেকে চুপিসারে রান্না করে পাঠানো হয়েছে। খাবার পর লেঃ মুর্শেদ আমাদের

সবাইকে যার পজিশন বুঝিয়ে দিল। অন্ধকার নেমে আসছে, মোমবাতির ক্ষীণ আলোকেও ঢাকা দেবার চেষ্টা চলেছে, নিচু

গলায় ফিসফিস করে কথা বলছে কেউ কেউ। শক্ত করে ধরে থাকলাম আমার হাতের এল, এম জি তাকে, এই মুহূর্তে

আমার সবচেয়ে বিশ্বাসী বন্ধু। শীতল ইস্পাত থেকে বিদ্যুত প্রবাহিত হতে লাগলো আমার রক্তে। বিস্কিটের টিনের মত

গোল আর মসৃণ ম্যাগাজিনের উপর কয়েকবার হাত বুলালাম। ধীরে মনে পড়তে লাগলো বাবা, মা, ভাই, বোন ও বন্ধুদের

কথা। ২৫ মার্চের পাকিস্তানীদের নারকীয় হত্যা যজ্ঞের সাথে পাকিস্তানের মৃত্যু হয়েছে। বঙ্গবন্ধু অনেক চেষ্টা

করেও গনতান্ত্রিক উপায়ে শেষ রক্ষা করতে পারলেন না। পাকিস্তানের বেঈমানির মুখোশ খসে পরেছে।

প্রথম কয়েকদিন অবিশ্বাস্য দুস্বপ্নের মত কেটে গেল। সিলেট শহরের রাজপথে নিরীহ মানুষের লাশ বাড়তেই লাগলো।

হঠাত মেজর জিয়ার স্বাধীনতা ঘোষনায় যেন সম্বিত ফিরে পেলাম, এবার বাঙ্গালী সৈনিকরাও জেগেছে। একটা দুর্বার

সাহস ফিরে পেলাম। কি করবো বুঝতে পারার আগেই শুনলাম পাঞ্জাবিরা নিজেদের রেজিমেন্টের দুজন বাঙ্গালী অফিসার

লেঃ ডা; মইন ও কেপ্টেইন মাহবুব কে গুলি বিদ্ধ করে সিলেট মেডিকেল কলেজ হাসপাতালে ফেলে গেছে। কার্ফু ভাঙ্গার

সাথে হাসপাতালে ছুটে গেলাম। অদূরে অপারেশন থিয়েটার থেকে বেরিয়ে এসে দাড়ালেন সার্জারীর প্রধান অধ্যাপক ডাঃ

শামসুদ্দীন আহমদ, আমার বাবা। আমার দিকে চোখ পড়তেই নিস্পলক তাকিয়ে থাকলেন কয়েক মূহুর্ত। তাকে মনে হল

অনেক ক্লান্ত ও চিন্তিত। মেডিকেল কলেজ হাসপাতাল এখন ডাক্তার শূন্য, সবাই আকস্মিকতায় দিশেহারা। অথচ

হাসপাতালে আহত মূমুর্ষু অসহায় রোগীদের সংখ্যা বেড়েই চলেছে। অধ্যাপক ডাঃ শামসুদ্দীন হাসপাতালে সারাক্ষন

থেকে যাবার মনস্থ করেছেন। তার জীবনের সবচেয়ে বড় পরীক্ষা। প্রানের ভয় থেকে বড় দায়িত্ববোধ। এই ভয়ঙ্কর

দুঃসময়ে বুকের মধ্যে আগলে ধরে রাখলেন হাসপাতালকে। যে করেই হোক খোলা রবে এর দ্বার। কানে বাজতে লাগলো গত

রাতের তার কথাগুলো। হানাদারদের এখন চ্যালেঞ্জ করতে হবে সমরাস্ত্র দিয়ে, তীর, বল্লম আর গাদা বন্দুক দিয়ে

নয়। বেশি দেরী হলে বাঙ্গালী জাতী ধ্বংস হয়ে যাবে। তৎক্ষনাত ঘুরে দাড়ালাম, পিছন ফিরে আর একবার ও তাকালাম

না। (তখন বুঝতে পারিনি এটাই আমার বাবাকে আমার শেষ দেখা। ৫ দিন পর ৯ এপ্রিল এই হাসপাতালের ভিতর মুমূর্ষূ ও

আহতের সেবার করার সময় পাকিস্তানী হানাদারদের হাতে তিনি কিছু সাথীদের নিয়ে শহীদ হন)।

কয়েক ঘন্টার মধ্যেই সালাম (অবঃ কর্নেল), আনিস ভাই (অবঃ মেজর), বুলু ভাই (চিকিতসক),আর আমি প্রথম বর্ষ

মেডিকেলের ছাত্র, সিলেট শহর থেকে রওয়ানা দিলাম অজানার পথে। যেহীন, ফয়সল, শাহরীয়ার, বাব্লু, আতিক (অবঃ

মেজর) ও অন্যান্য বন্ধুদের সিলেটে অপেক্ষা করতে বললাম পরবর্তী নির্দেশের জন্য। প্রথম লক্ষ্য সিলেটের অদূরে

বিয়ানীবাজার থানার দিকে কারন সেখানে আর্মী তখনো ঔখানে যায়নি এবং বাঙ্গালী পুলিশরা তখনো অস্ত্রজমা দেয়নি।

পরিকল্পনা হল পুলিশদের কাছ থেকে রাইফেল যোগাড় করতে হবে, প্রয়োজন বেধে ছিনতাই করে হলেও। তার পর ছাত্র

জনতাকে প্রশিক্ষন দিয়ে সংগঠিত করতে হবে প্রতিরোধ। কিন্তু তার প্রয়োজন হলনা, দেখা হয়ে গেল কর্নেল (অবঃ)

রবের (অবঃ মেঃ জেনারেল) সাথে। শুনলাম আজ রাতে ২য় বেঙ্গল রেজিমেন্টের সৈনিকরা কেপ্টেইন আজিজের (মেঃ

জেনারেল) নেতৃত্বে সিলেটে হানাদার বাহিনীর উপর হামলা চালাবে। তিনি আমাদের যথাশিঘ্র তেলিয়াপাড়া চা বাগানে

জমায়েত বেঙ্গল রেজিমেন্ট এর কাছে রিপোর্ট করার জন্য নির্দেশ দিলেন।

বিয়ানিবাজারেরে সাব ভাই এর সাহায্যে আমরা ভারতে পৌছালাম। অপরিচিত কয়েকজন উতসাহী ভারতীয় তরুনের

সাহায্যে করিমগঞ্জ হয়ে আগরতলার বর্ডার দিয়ে পরদিনই আবার বাংলাদেশের ভিতর তেলিয়াপাড়াতে এসে পৌছালাম।

তেলিয়াপাড়াতে তখন বাঙ্গালী সমরনায়কদের প্রথম ঐতিহাসিক বৈঠকে মুক্তিযুদ্ধের নক্সা তৈরী হচ্ছিল।

ব্রাহ্মণবাড়িয়া তখনও বাঙ্গালী সৈনিকদের দখলে। দুদিনের মধেয়ি হাতে সাবমেশিন গান রাইফেল, লাইট মেশিন গান

আর গ্রেনেড ছোড়ার ট্রেনিং নিয়ে আমরা চার জন ছাত্র মিশে গেলাম ২য় বেঙ্গল রেজিমেন্টের সাথে। ২য় বেঙ্গল

রেজিমেন্টের কমান্ডার মৃদুভাষী মেজর শফিউল্লা (অবঃ লেঃ জেনারেল, সেনা প্রধান) ছোট্ট করে একটা দৃঢ় বক্তব্য

রাখলেন। অন্যায় ভাবে বাঙ্গালীদের উপর হত্যা, ধ্বংস ও বর্বরতা শুরু করেছে পাকিস্তানী সৈন্যরা। এখন জাতীয়

কর্তব্য হবে দেশকে শত্রু মুক্ত করার জন্য প্রানপনে যুদ্ধ চালিয়ে যাওয়া। কতদিন যুদ্ধ চলবে জানিনা তবে অন্যায়ের

বিরুদ্ধে জয় আমাদের হবেই।

কিছুদিন সালাম আমি আর আনিস ভাই কে নবগঠিত পুলিশ, ইপিআর ও ছাত্র জনতা তৈরি কোম্পানি গুলির কমান্ডার

হিসেবে দায়িত্বভার দেয়া হল। আমাদের কে আর্মি ক্যাডেট হিসেবে পরিচয় করানো হল সাংগঠনিক সুবিধার্তে। তখন

মুক্তিযুদ্ধের মাত্র প্রথম পর্যায় এবং ভারতের সাথে পূর্বের কোন বোঝাপড়া না থাকায় ভারতের কাছ থেকে তখনই

কোন সামরিক সাহায্য পাওয়া গেল না তাই বেঙ্গল রেজিমেন্ট স্বল্প লোকবল ও সীমিত অস্ত্র নিয়ে হানাদারদের

মরিয়া হয়ে প্রতিহত করার চেষ্টা করছিল। আর আমরা ক্যাম্পে রনক্ষেত্রে যাবার জন্য সারাক্ষন উদ্‌গ্রীব হয়ে

থাকতাম। তখনই একদিন হঠাত করে হাজির হল এক তরুন সুদর্শন বাঙ্গালী লেফটেনেন্ট, তার এক হাত প্লাস্টারে

ঢাকা, যুদ্ধের সময় শত্রুর গুলি লেগে ভেঙ্গে গেছে। তাতে সে দমবার পাত্র নয়, আরেক হাত তো এখনো আছে, অনায়াসে

ছুড়তে পারবে গ্রেনেড অথবা চালাতে পারবে সাবমেশিঙ্গান। মুর্শেদ জানালো তার স্পেশাল প্ল্যাটুনের পরিকল্পনা।

পরিষ্কার ভাবে বোঝালো এই ঝুকির মর্মার্থ। আত্বঘাতী অভিযান। আমি যেন এতদিন তারই জন্য অপেক্ষা করছিলাম।

তক্ষুনি কোম্পানির দায়িত্ব আমার সহকারি ওয়াকারের (বর্তমানে অবঃ কর্নেল) কাছে দিয়ে মুর্শেদের সাথে চলে

এলাম শত্রু হননের দুর্বার স্বপ্নে। একের পর এক দ্রুত ভাসতে থাকলো স্মৃতিগুলি।

হঠাত করে তন্দ্রা ভাঙ্গলো, দেখি সবাই তৈরি হয়ে গেছে। এখনই বেড়িয়ে পড়তে হবে। এল এম জি টা হাতে নিয়ে উঠে

দাড়ালাম, গ্রেনেড গুলি চেক করে নিলাম। একটা প্রচন্ড শক্তি অনুভব করলাম। আজ আমার প্রথম অপারেশন।

চঞ্চলতা নেই ভেতরে, ভয় যেন কোথায় হারিয়ে গেছে, অদ্‌ভুত অব্যাক্ত এক অনুভূতি। শত্রুর গুলি আজ আমাকে

কিছুতেই স্পর্শ করতে পারবেনা বলে এক দৃঢ় বিশ্বাস জন্মেছে। হঠাত করে আবার বাবা মা ভাই ও বোনদের কথা মনে

পরলো, বন্ধুদের মুখ ভেসে উঠলো। কে কোথায় কিভাবে আছে বা নেই কিছুই জানিনা, কোনদিন কাউকে দেখতে পাব কিনা

তাও জানিনা। চিন্তাটাকে দূর করার জন্য মনে করতে চাইলাম সামনের শত্রুকে আক্রমন করারি এই মুহূর্তে আমার

জীবনের একমাত্র লক্ষ্য।

নিঃশব্দে সবাই আবার গাঢ় অন্ধকারে বেরিয়ে পরলাম। শত্রুর ছাউনির দিকে ক্রমাগত এগিয়ে যেতে থাকলাম। কাদায়

ভরে গেছে পথ। জল আর কাদায় অতি সন্তর্পনে হাটলেও প্যাচ শব্দ হতে লাগলো। হঠাত নিস্তব্ধতা, খানখান করে,

পাকিস্তানীরা আকাশে সার্চ পিস্তল ছুড়লো। আগের নির্দেশ মত নিঃশব্দে সবাই মাটিতে শুয়ে পড়লাম। সাদা আলোতে

চারদিক আলোকিত হয়ে গেল কিছুক্ষনের জন্য। সব চুপচাপ, মনে হল তারা টের পেলনা আমাদের উপস্থিতি। সন্তর্পনে

আবার রওয়ানা হলাম শহর ছাউনির দিকে খুব ধীর গতিতে। আরো কাছাকাছি আসার পর লেঃ মুর্শেদ দুজন করে

পূর্বনির্ধারিত পরিকল্পনা অনুযায়ী সবাইকে যার পজিশনে বসিয়ে দিল। আমি লাইট মেশিনগানটা নিয়ে সবার ডান দিকে

বসলাম। হাত ধরে ইশারায় সে দেখালো আমার প্রথম টার্গেট, শত্রুর ভারি মেশিনগানের ব্যাঙ্কার। নিকশ অন্ধকারে

কিছুই পরলোনা চোখে। ব্যাংকার কত দূরে বোঝা গেল না। ট্রিগারে আঙ্গুল রেখে শুয়ে অপেক্ষা করতে লাগলাম

সঙ্কেতের। দুই ইঞ্চি মর্টার দিয়ে মুর্শেদের আক্রমনের সাথে সাথে আমাদের ও শুরু করতে হবে ব্রাশ ফায়ার। ঘুটঘুটে

অন্ধকারে সামনে কতক্ষন তাকিয়ে আছি জানিনা, হঠাত যেন অন্ধকার ভেদ করে আমার দৃষ্টিতে ধরা দিতে থাকলো

কিছু রেখা। ব্রীজটা, ছাউনি, শত্রুর ট্রাকগুলো সব কিছু যেন এখন ঠাহর করতে পারছি। হঠাত দেখি সামনে খুব কাছে দুটো

ছাড়া নড়ে উঠলো। মনে হল ছাউনি থেকে বাংকারে আসছে দুজন শত্রু সেনা। তক্ষুনি আক্রমনের সংকেত, মুর্শেদের

মর্টার গর্জে উঠলো, ছাউনিতে আঘাত করেছে শেলটি। আমার নিশানা ততক্ষনে দুটী ছায়ার দিকে নিবদ্ধ, ট্রিগারে

আঙ্গুল চেপে ধরলাম সব শক্তি দিয়ে। শুরু হয়ে গেল অ্যাটাক। আচমকা পিছন থেকে এই আক্রমনে হৈ চৈ পড়ে গেছে

পাকিস্তানিদের মধ্যে।

অনবরত সয়ংক্রিয় অস্ত্রের শব্দে কাঁপতে থাকলো সমস্ত এলাকা। মাঝে মাঝে মর্টারের শব্দ। শত্রুরা কিছুটা সামলে

নিয়ে পালটা আক্রমন করেছে। হঠাত দেখি সামনের বাংকার থেকে প্রচন্ড শব্দে ভারী মেশিনগান গুলো গর্জে উঠলো,

আমার মাথার খুব কাছ দিয়ে ছুটতে লাগলো গুলি। বুঝলাম বাংকারে যারা ছিল তাদেরকে এক্ষুনি স্তব্ধ করে দিতে হবে।

গ্রেনেডের পিনটা খুলে ছুড়ে দিলাম অন্ধকারে মেশিনগানের ফুলকির দিকে লক্ষ্য করে, তারপর কানে হাত দিয়ে পজিশন

নিলাম। গ্রেনেডের বিস্ফোরনের সাথে সাথে স্তব্ধ হয়ে গেল শত্রুর বাংকার। তথাপি, আবার ব্রাশ ফায়ার করতে

থাকলাম আরো কিছুক্ষন সেই দিকে। তারপর ছাউনির দিকে ঘুরিয়ে ধরলাম নিশানা। সেদিক থেকে বেশ কিছু স্বয়ংক্রিয়

অস্ত্রের গুলি আসছিল। আবার গর্জে উঠলো আমার এল এম জি। অনবরত ঠিকরে বেরুচ্ছে আগুন, উত্তপ্ত হয়ে গেছে

ইস্পাতের শরীর। ধারে কয়েকটা গ্রেনেড ফুটলো।

কতক্ষন গুলি চলছে খেয়াল নেই, ধীরে ধীরে শত্রুর গোলাগুলি কমতে লাগলো। হঠাত দেখি ডানদিকে রাস্তায় হেডলাইট

বন্ধ করে এগিয়ে আসছিল একটি গাড়ি, মুহূর্তে লাইটটা জ্বলে আবার নিভিয়ে দিল। ঐদিকে তৎক্ষনাত ঘুরিয়ে নিলাম

এল এম জি’ র নলটি, আবারো কিছুক্ষন চেপে ধরলাম ট্রিগার। গাড়ি থেকে কোন গুলি আসলোনা। মুর্শেদ ততক্ষনে

সংকেত দিয়েছে ফিরে যাবার। মেশিনগানটা হাতে নিয়ে কুলিং করে পিছু হাটতে থাকলাম। একটা বাড়ির আড়ালে এসে উঠে

দাড়ালাম সোজা হয়ে। দুটো এল এম জি থেকে শত্রুরা তখনও অনবরত চালিয়ে যেতে থাকলো গুলি। বেশ কয়েকবার বাশির

মত শব্দ করে খুব কাছ দিয়ে উড়ে গেল গুলি, ভ্রূক্ষেপ না করে চলতে লাগলাম। মুর্শেদ দেখে নিল আমাদের কেউ হতাহত

হয়নি। অজানা একটি আনন্দে ভরে উঠেছে বুক। আমরা লাইন করে এগিয়ে যেতে লাগলাম মাধবপুরে আমাদের ঘাটির

দিকে। (গ্রামের লোকজন পরের দিন ২২ জন শত্রু সেনার লাশ ট্রাকে করে নিয়ে যেতে দেখেছে।)

ধীরে ধীরে পূর্বাকাশ আলোকিত করে অন্ধকার কাটতে লাগলো। এতদিনের একটা অব্যাক্ত অসহায় যন্ত্রনা, ক্রোধ ও

ঘৃনার সংমিশ্রনে ভরা বুকটা একটু হালকা মনে হল। বুক ভরে জোরে জোরে কয়েকবার শ্বাস নিলাম। বেশ হালকা লাগছে।

অনেকদিন পর ভোরের বাতাসের ঘ্রান নিলাম। সামনে তাকিয়ে দেখলাম চোখ জুড়ানো সবুজ ক্ষেত আর একে বেকে চলে

গেছে মেঠো পথ, অনেক দূরে দিগন্তের দিকে, হঠাত মনে হল কবে শেষ হবে এই পথ।

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ভিক্টর যখন কথা শুরু করে, তা চলতেই থাকে। অনেকটা লক্ষহীন ভাবে। মিশেল তখন স্নেহ ভরা কণ্ঠে ভিক্টরকে থামতে বলে।

আজকাল কোনো প্রশ্নের সরাসরি উত্তর ভিক্টর দেয় না। এই যেমন তাকে জিজ্ঞেস করলাম, গত সাত দিন ঘুম কেমন হয়েছে? ভিক্টর বললো , 'ঘুম তো খুব দরকার। ঘুমালে ভালো লাগে। ছোটবেলায় মা আদর করে ঘুম পড়িয়ে দিতেন। ' তখন মিশেল বললো , ডাক্তার, ওর ঘুম ভালো হচ্ছে।

ভিক্টর আর মিশেল কে আমি গত পনেরো বছর ধরে চিনি। ভিক্টরের বয়স এখন আশি ছুঁই ছুঁই। মিশেলের পঁয়ষট্টি। মিশেল কিছুদিন আগে তাঁর চাকরি থেকে অবসরে চলে গিয়েছে। ভিক্টর অবসরে গিয়েছে বছর দশেক আগে।

অসম বয়সী এ দম্পতি আমার খুব প্রিয়। ভিক্টর কৃষ্ণাঙ্গ। জর্জিয়ার এক ফার্মে তাঁর জন্ম। বাবা ছিলো একজন দাস। অল্প লেখাপড়া করে সেনাবাহিনীতে নাম লেখালো সে। ভিক্টর ভিয়েতনামের

যুদ্ধ থেকে ফিরে এসে কানেটিকাটের একটি ছোট্ট শহরের এক কারখানাতে প্রকৌশলী হিসেবে কাজ শুরু করলো। সেনাবাহিনীতে থাকাকালীন সময়ে সে লেখাপড়া করে একজন প্রকৌশলী হয়ে যায়। একদিন সেই শহরের একটি পাবে তাঁর সাথে পরিচয় হয় মিশেলের সাথে।

মিশেল শেতাঙ্গ। নিউ ইয়র্ক এর আলবেনি শহরে তাঁর জন্ম। সৎ বাবার লোলুপ দৃষ্টি থেকে বাঁচবার জন্য বাড়ি ছেড়ে পালিয়ে কানেটিকাট অঙ্গরাজ্যের ছোট এক শহরে পাবে কাজ নিয়েছিল সে। ভিক্টর তাঁকে স্কুলে যাবার জন্য উৎসাহিত করতো। অবশেষে রাজি হয়ে গেলো সে। ততদিনে মন দেয়া নেয়া শুরু হয়েছে তাঁদের। কলেজ শেষ করার পরপরই মিশেল তাঁকে বিয়ের প্রস্তাব দিলো। নতুন জীবন শুরু হলো এ যুগলের।

মিশেল বিশ্ববিদ্যালয়ের গন্ডি পেরিয়ে অধ্যাপনা শুরু করলো। তাদের একমাত্র সন্তান গ্রেগ হার্ভার্ড বিশ্ববিদ্যালয়ে পড়াশুনা শেষ করে সেখানেই অধ্যাপনা শুরু করলো। সুখী এ দম্পতি অরল্যান্ডোতে এসেছে দু দশক আগে।

বই পড়তে আর ভ্রমনে তাঁদের মহা উৎসাহ। গত এক বছর হলো ভিক্টরের স্মৃতি শক্তি লোপ পাচ্ছে। কিন্তু সে একজন বুদ্ধিমান মানুষ হিসেবে সেটা লুকোবার চেষ্টা করছে। সব ভুলে যাওয়া প্রশ্ন গুলো সে ' গল্পকরণ ' করে ফেলে। সে মানতে রাজী নয় যে তাঁর স্মৃতিভ্রংশ রোগ হয়েছে।

আমি একজন প্রিয় বুদ্ধিমান মানুষের স্মৃতিভ্রংশ দেখছি। ভিক্টর আস্তে আস্তে অনেক কিছু ভুলে যাবে। অনেক আপন জনকে চিনতে পারবে না। ভাবতেই মনটা খারাপ হয়ে যায়।

প্রতিদিন ভোরে বাসা থেকে কাজে আসার পথে আমার বাবার সাথে কথা হয়। তিনিও ভুলে যাচ্ছেন অনেক কিছু। তা থেকে হতাশা জন্ম নিচ্ছে তার আর আশেপাশের সবার। স্মৃতিভংশের ওষুধ শুরু করেছেন তিনি। সে ওষুধ সহ্য করতে কষ্ট হচ্ছে তাঁর।

কাজ শেষে সূর্যাস্তে বাড়ি ফিরছি। চারদিক অন্ধকার হয়ে আসছে। আস্তে আস্তে আমিও স্মৃতিভ্রংশের দিকে যাবো হয়তো একদিন।হঠাৎ করে আজকের সূর্যাস্তটা আরো গভীরভাবে উপভোগ করতে ইচ্ছে হচ্ছে।

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জলছবি

মঈনউদ্দিন মুনশী

ধূসর সকাল, বৃষ্টি ভেজা অন্ধকার
জানালায় কম্পিত, রূপসী জলভার।
গ্রিল বারান্দায়, আঁচলে ঢেকেছে চুল
দুলছে কানের দুল, নন্দিনীর ফুল।
ধূসরতা লুকিয়ে রেখেছে তার নীল
বৃষ্টি ফোটা চুলের ডগায় আছে ঝুল।
ধুলো উড়ছে কোথাও, তাঁর হাঁটা পথ
বাতাস নাড়িয়ে দিলো, গাছের সঙ্কেত।
ভেসে ভেসে কাজ নেই, অচেনা নদীর
কুয়াশা রোদ্দুর, কতদূর তারপর
দেখিনি কেমন তাঁর বিছানা কবর
জোছনা, কুয়াশা, আলোকিত শবধারা।

বাতাসে আকাশ আছে, তাঁর নিঃশ্বাস
পাখীর বিকেল, রোদ যায় নিরুদ্দেশ।
সবাই দেখছে, মনে মনে ভাবনার
বারান্দায় ভেজা তার বৃষ্টির শরীর।
ভেবে দেখো, আসছে, আসলে যাচ্ছে ঝরে
হুইসেল সারাক্ষণ, ট্রেন যাচ্ছে দূরে।
এভাবেই যায় সময়, শব্দের খাতা
বৃষ্টি ঢেকে দিলো আকাশ, চোখের পাতা।

মৃন্ময়ী নদীর হৃদয়

মঈনউদ্দিন মুনশী

চোখে তার ঝর্না, রাতের তারায় নীল
চাঁদে ঝরে বন্যা, মেঘের কান্নায় ঝিল।
বৃক্ষে সুললিত প্রাণ, শিশিরে ভোরের আলো
পাতায় পাখীর ঘ্রাণ, সমুদ্রে মেঘের কালো
মাটিতে মৃন্ময়ী সুর, বাঁশী জাগায় নদী
মেঘের দুঃখ বধির, বৃষ্টির স্নেহে সুগন্ধি
বিষাদে রূপসী ফুল, জ্যোৎস্নায় লতানো গান
উত্তাল নদীর কুল, নূপুরে ভরেছে প্রাণ
আকাশে ধূসর আধার, ভালোবাসা ফুরালো সুবাস
বিষণ্ন প্রাণের মর্মর, বেদনার মৌসুমি আভাস।

বোধ

মঈনউদ্দিন মুনশী

(নবিছউদ্দিন ও নুরুন্নেছা কে)

বাবা নেই, এই আমি আছি, এতো তাঁরই অস্তিত্ব,
তাঁর চলার পথে ধূলোর শোক
আমি না থাকলে কে বুঝতো
মা নেই, এই দেশ আছে, এতো তাঁরই হৃদয়,
আমাকে আগলে রাখে.....
দেশ আমার চোখের জল
ধুলো আমার রক্ত কণিকা
এই মাটি আমার বাবা-মা
ওদের শরীর আর এই দেশ একাকার.....
আমি নিঃস্ব, ঝরে গেছি জলের উপর
ফাগুনের কৃষ্ণচূড়া, শ্রাবণের জল
যেখানে ভাসিয়ে নেয় নিক।

Chowdhury H. Ahsan, M.D., F.A.C.C. F.S.C.A.I. Director of the Cardiology Fellowship program, University of Nevada School of Medicine MBBS from Dhaka Medical College.

শুনতে কি পাও?

শুনতে কি পাও? -পৃথিবীর আরেক প্রান্তে আমি নির্নিমেষ তোমারই অপেক্ষায়
পাথরে পাথরে অহরহ সুচিৎকার দেই
আর শুনি ধবনিপ্রতিধবনিময় তোমারই নাম
শুনতেকি পাও

আমি ত বেবাক ছেড়েছি সব, বৈভব,
শূন্য করে দিয়েছি যা ছিল আমার নিজস্ব মতন--
ডাক টিকিটের অ্যালবাম, খেলনা গাড়ি, ডানা ভাঙা হেলিকপ্টার, যা কিছু সুখস্মৃতি
চরম দু:খ দিনে আমাদের প্রাণের ঐক্যতান, ভাললাগা গান
আমি ত নির্বিকার ছেড়েছি দাবী -মনে আছে একদা
মিলিটারির বুনো অত্যাচার আর ভিটে মাটি ছাড়া দিশেহারা দিনের সংগ্রামী প্রতিজ্ঞা
অকস্ম্যাৎ - কোন দুর্বিপাকে ছুটেছি পশ্চিমে, আমি নির্বিকার
ছেড়েছি দাবী, আমাদের নিজস্ব ভূখন্ডে দাঁড়িয়ে থাকবার
আমাদের আজীবনের স্বপ্ন অহংকার ।

দূর দূর ফেলে দিয়ে চলে এসেছি যা ছিল কর্কশ দিন, ভালোবাসাময়
ফি বছর বন্যা আর দুর্ভিক্ষের ভয় ভরা ভয়ার্ত সংসার
জনস্রোত ভেঙে ভেঙে সারাদিন ঘর্মাক্ত, কর্ম ক্লান্ত, বাবা
প্রতিটি দিনের অহরহ জীবন তাড়না, আনন্দ বেদনায় সয়লাব
অস্তিত্বের ভূভাগ চিরে অনন্তর দাঁড়িয়ে থাকা উন্মাতাল, মমতাময়ী মা --
একটাই ত আমাদের পৃথিবী, অখন্ড আকাশ চাঁদ আর নক্ষত্রের এত আয়োজন
বলবে কি সস্নেহে, কখনো এসে কাছে, দ্যাখো, দ্যাখো তুমি, ইথারে ইথারে আমাদের হৃদয় সব গাঁথা হয়ে আছে ।।

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আমরা বাঙালী

মোরা সোনার দেশের
সোনার মানুষ
ভাতে মাছে বাঙালী
বলার সময় অনেক বলি
করার সময় পিছে চলি
কথা বেশি কাজ কম
আমারা বাঙালী
পারি বা নাইকো পারি
কোনো কিছু করতে
বড় মোরা পটু শুধু
সবার ভুল ধরতে
মাথায় কত বুদ্ধি আসে
ঘুরে ঘুরে ফিরে যায়
পাছে লোকে কিছু বলে
আমরা বেশি ভয় করি মানুষের, আল্লারে নয়
তাই সত্য কথা সত্য চিন্তা ফিরে যায় হৃদয়ের তোলে
মোরা ছোট হতে নাহি চাই
যে ভাবেই হোক জিততে হইবে
কথার যুদ্ধে চিৎকার হোক
করিয়া গলার স্বর ঊর্দ্ধে
যতনা দেই তার চেয়ে বেশি আশা করি

তাই দিনে দিনে রাগ আর হিংসা দিয়ে হৃদয়ের কলস ভরি
আমরা বাঙালী মুসলমান কথায় কথায় ধর্মের কথা
শুনাইতেছি যারে তারে
ছাত্রের চেয়ে শিক্ষক বেশি তাই দরকার নাই শুনিবারে
প্রশ্নের চেয়ে উত্তর বেশি
দেখিতে গিয়ে মোরা দেখা দিয়ে আসি
উপরে থাকিব সকল কাজে
গৌরব মোর চাই
তাই বাড়িতেছে শুধু আত্মীয়স্বজন পাড়া প্রতিবেশী
বন্ধু নাহিকো পাই।
হিংসা লোভ জেদী হৃদিভড়
করিতে চাহিলে সম্মান
জেগে উঠে শুধু পরশ্রীকাতর।
যুগে যুগে মানুষ এসেছে গিয়েছে
কেহবা হেসেছে কেহবা কেঁদেছে
ভালো যে জন ভালো যে বেসেছে

মুঠি মুঠি আদর ভালোবাসা
করে গেছে দান
মরিতে হয়েছে তাকেও
পাইতে সম্মান।।

Social outreach programs:

BMANA California Chapter- The Rohingya Camp Visit January 2019

The Rohingya Camps

BMANA California Chapter Physicians at the Camp

Dear Fellow BMANA Physicians,
In response to the Rohingya Crisis, **BMANA-California Chapter, by partnering with Hope Foundation and its founder Dr. Iftikher Mahmood**, started an initiative to support the refugees who are taking shelter in Bangladesh. This January 2019, BMANA-CA visited The Rohingya Camps to provide them with medical help and donation.

1. A van picked us up from the hotel at 9 am and we reached Hope Field Hospital in Madhuchara Camp #4 in Chittagong at 10 am.

2. Educational Lectures : 10:00 A.M.- 12 P.M. Doctors participated in lectures pertaining to their specific field to Hope Physicians, Nurses, Midwives and volunteers there.

3. Patient Care: Doctors started seeing patients in clinic from 10:30 am- 3:00 pm.

BMANA CA Doctors at work seeing patients

BMANA CA Doctors brought along much needed medication for the Refugees. BMANA CA Doctors at work and dispensing medication

BMANA CA Doctors at work dispensing aid and seeing patients.

4. Visit to Hope Maternity & Fistula Center after 3 p.m. : BMANA CA doctors visited Hope Maternity and Fistula center where there is access to Telemedicine, Operation Theater, Lab, and Maternity Wards.

May we always act so as to preserve the finest traditions of our calling, and may we long experience the joy of healing those who seek our help.

This we believe !!!!
BMANA California Chapter.

From Central BMANA Young physician secretary's desk: 2019

Hope you are all well and coping with the winter. As winter is beginning, the interview season is in progression and will end at of January. I wish you all the best who are travelling around for interviews. As soon as I took over the office, ERAS application process opened. A lot of you have contacted us and shared your thoughts. We really appreciate your trust in us. I can assure you that everything will remain confidential.

We had three official sessions for the preparation of ERAS application, with resume and improving personal statements and how to prepare for interviews. All of our sessions were live and recorded. The videos have been posted on our Facebook site. Besides that, we had mini sessions with individual candidates. I am available all the time for them and glad to be there.

At the end of July, few weeks after I had started as BMANA Central young physician secretary, with help of Central Scientific and Social secretary Dr. Yusufal Mamoon we had our first session on residency application preparation. The session was started with ex BMANA central president Dr. Walled who came to encourage the residency applicants and Bangladeshi young physicians, sharing his experiences and guidance for observerships. Our guest speakers were Dr. Salma Khan from California, who presented on how to write a personal statement and resume. Dr. Nafees from New York health department gave a presentation on options of jobs as physicians in New York Health department. I also made connections to the applicants and heard their stories as well as assign them mentors who will work with them regarding their application process and practice interviews.

Our next session was a combine one for August and September where we met again to see the progress of each candidates. They were all working on their applications with assigned mentors and beyond. ERAS was open and application submissions started. Some also started to get interviews. The applicants needed to

practice interviews. It was a very motivational day for them when we have invited all member of newly elected BMANA central committee; among them were Dr. Yusufal Mamoon who actually gave his office for this sessions, Member-at- large Dr. Ferdousi Shilpee and Member-at- large Dr. Ahmed Morshed. We also had presentations from Dr. Iqbal Munir, Program director, Endocrine Fellowship in Loma Linda Medical School, California and Dr. Hafiz Program Director, Cardiology, University of Nevada, Las Vegas. It was a very important session as we did multiple MOC sessions with the applicants who had interviews soon and go over the techniques with help of an ER resident in NY, Dr. Nourine, Bangladeshi origin, but graduated from here and related to Dr. Zia , Nephrologist in Drexel University PA. Dr. Zia gave a great talk on plans to all.

Our last session in 2019 was in October, it was the beginning of the interview season and many candidates came from New York and all over the country. I was amazed that one person flew in that morning and left same day just to be in this session. They have heard the previous sessions through live telecasts and Facebook videos. A panel discussion ran for more than 4 hours lead by Dr. Tasbirul Islam, Pulmonologist, Indiana, Dr. Iqbal Munir, Program director, Endocrine Fellowship in Loma Linda Medical School, California, Dr.Mahbubul Alam Tuku, and Dr. Sadeq from West Chester County, NY. All members of Central BMANA were invited. We were fortunate to have our current BMANA central president Dr. Zia – ur – Rahman, current treasurer Dr. Bashir Ahmed from Florida, Social and scientific secretary Dr. Yusufal Mamoon, Member-at-large Dr. Ferdousi Shilpee and Member-at- large Dr. Ahmed Morshed. We also had a sessions with Dr. Munib Chowdhury on Psychiatry residency application, Dr. Atique (previous central BMANA Social and scientific secretary) on Gastroenterology and interview questions and Dr. Asif Khan on pain management. This was a very thought provoking session and per audiences it was extremely helpful and one of the best sessions, they have ever had. We also had a MOC interview session in a different room for the candidates.

However, this would not have been possible without the direct help of our countless advisors and mentors who made this happen. They have constantly by given their time to guide our residency applicants, delivered excellent lectures and made arrangements for their observerships and research opportunities. I would like to thank them from bottom of my heart.

With this support and the hard work of the candidates, almost everyone got interviews, some got pre match offers and some are waiting to participate at the match. Those who did not get interviews please do not lose hope. Will work from now to make a strong application. If some practical obstacles are in the way, we will try our best to guide to the right alternative pathways to best utilize your training. There are many other options than residency and clinical practices. We will have more sessions on clinical topics, when the dust settles in January. Will ask all to stay ready for the post match scrambles, even for those who applied late in the season.

We are also planning scheduled rotations for observer ship throughout USA so one person do not have any gaps while they are waiting. Thanks to all mentors and advisors who has helped me. I would also like to share a very promising news, I am very lucky to have a board with group of academicians, clinical practitioners and researchers who are coming up with a structured format for rotations. The people who are helping at personal level for rotations and research already can assist to have in a roaster form so you

can travel from one state to another at your own pace. Just let me know or email the individual persons so they can arrange their times and schedule.

I am thankful to these amazing groups of talented and great souls who are truly following BMANA's core value of our respected constitution: Helping the graduates from Bangladesh to get their career developed here.
I am also pleased to say that we are in the process of having a body of second-generation medical graduates, our own kids who will informally connect with each other to carry the torch as needed.

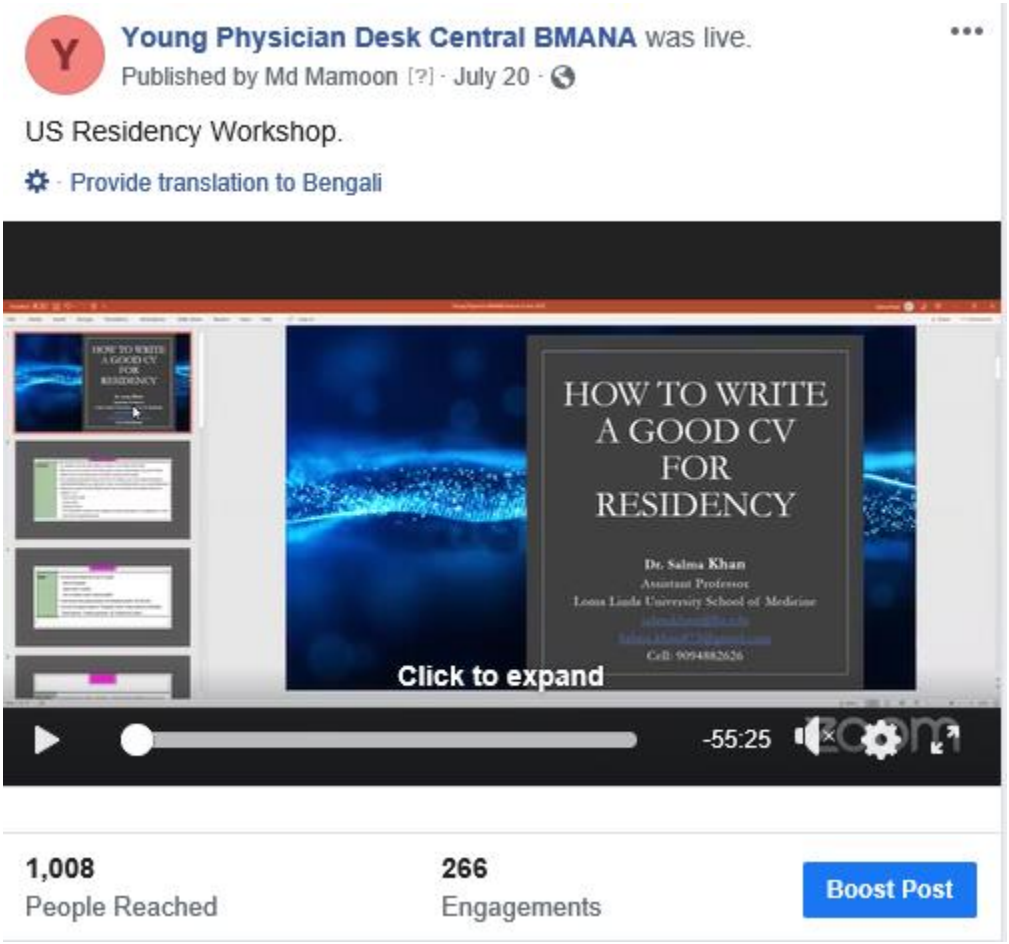
I would like to invite all the physicians who are helping residency candidates and resident physicians to find their best career path to share their stories. It will encourage hundreds and guide thousands.

Thank you and Happy New Year

Adiba Geeti MD, MSPH, FACP, FCCP

Young Physician Secretary, BMANA central, 2019-2021

ALBUM OF YOUNG PHYSICIAN DESK ACTIVITIES:



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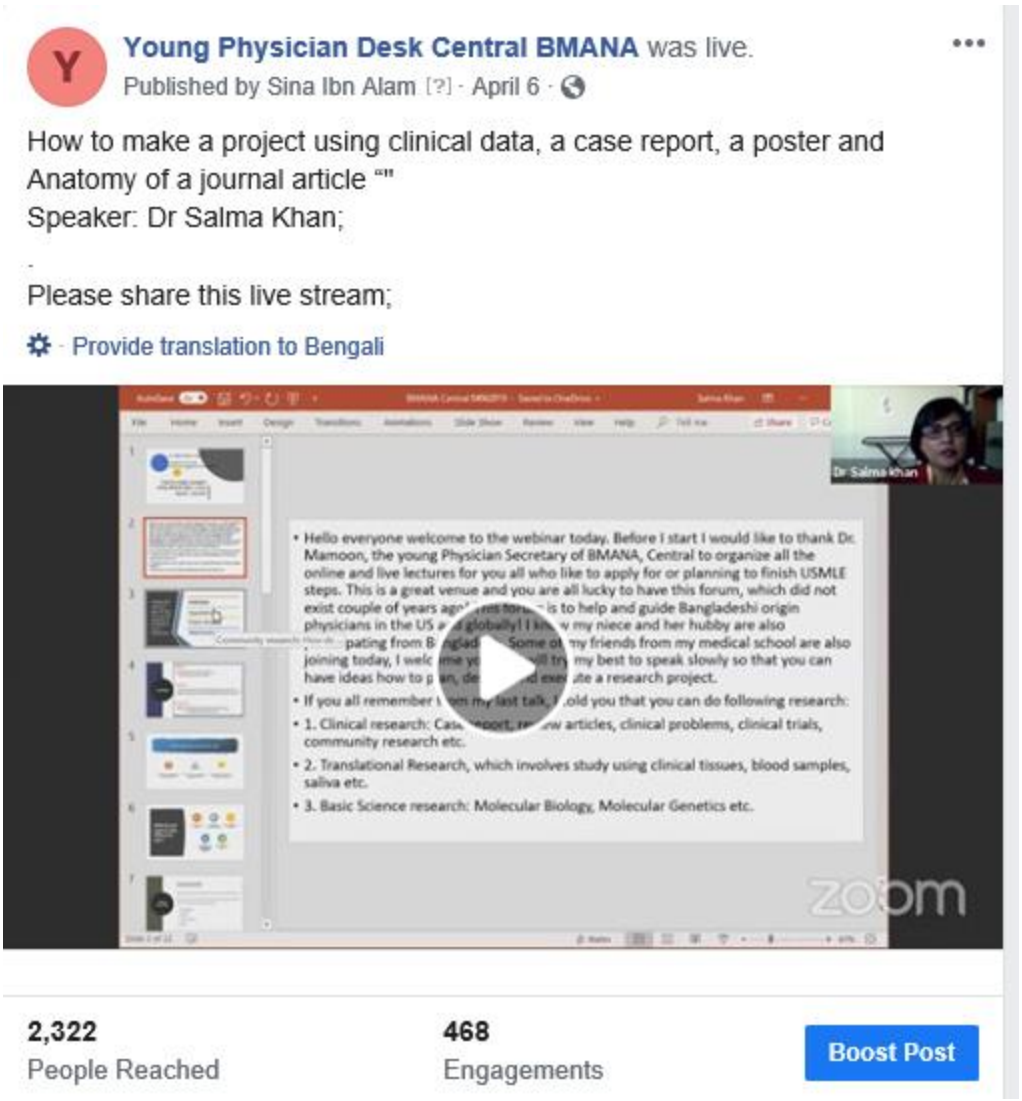

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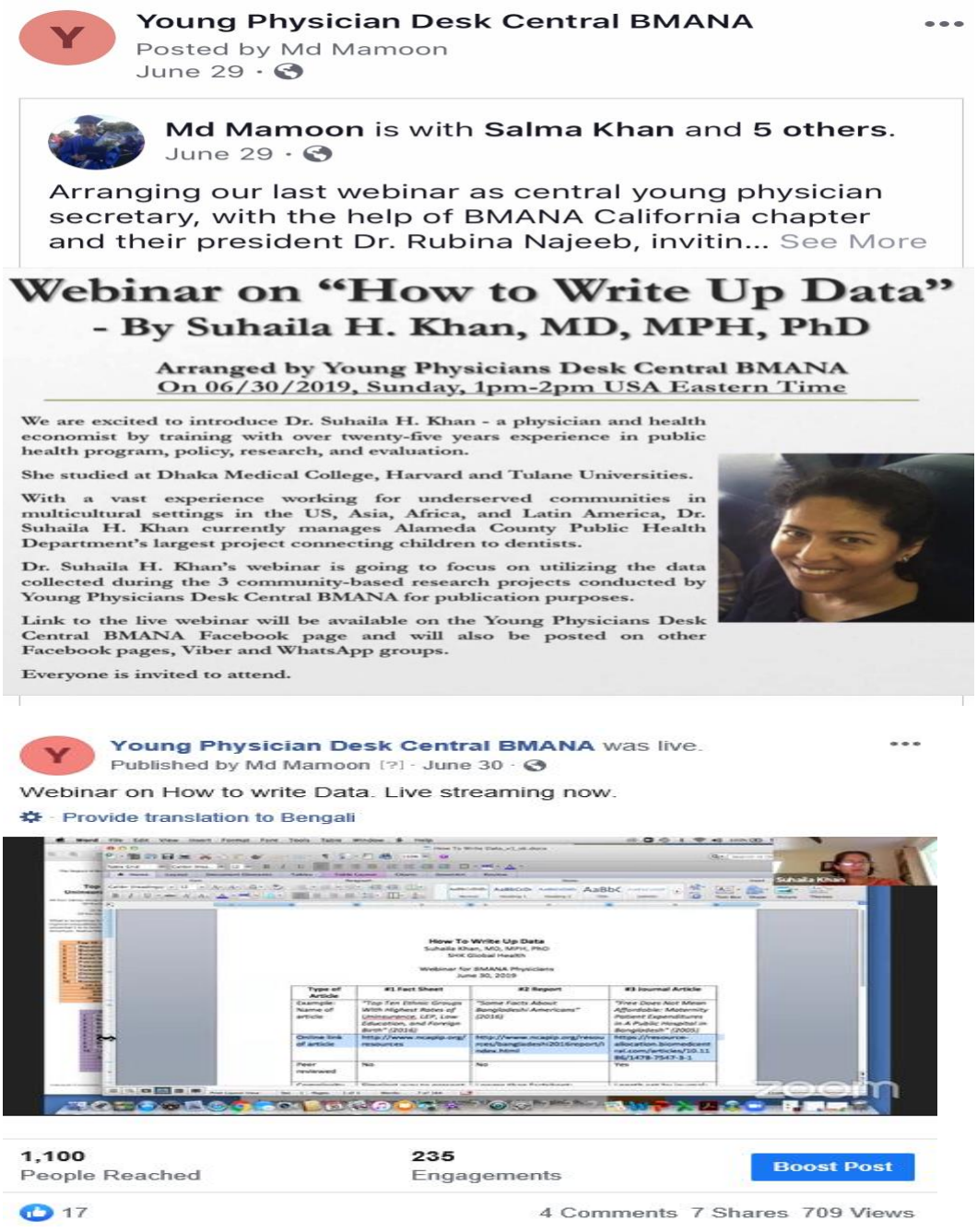

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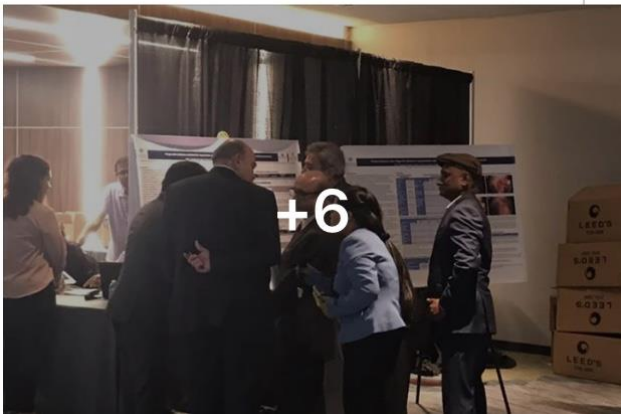
Young Physician Desk Central BMANA added an event.
February 18 ·

SUN, FEB 24

US residency and scope of observership and research.

★ Interested

Poster presentation session at our Detroit BMANA convention in presence of several program directors. Our young doctors have presented 3 posters on behalf of Young physician desk central BMANA.

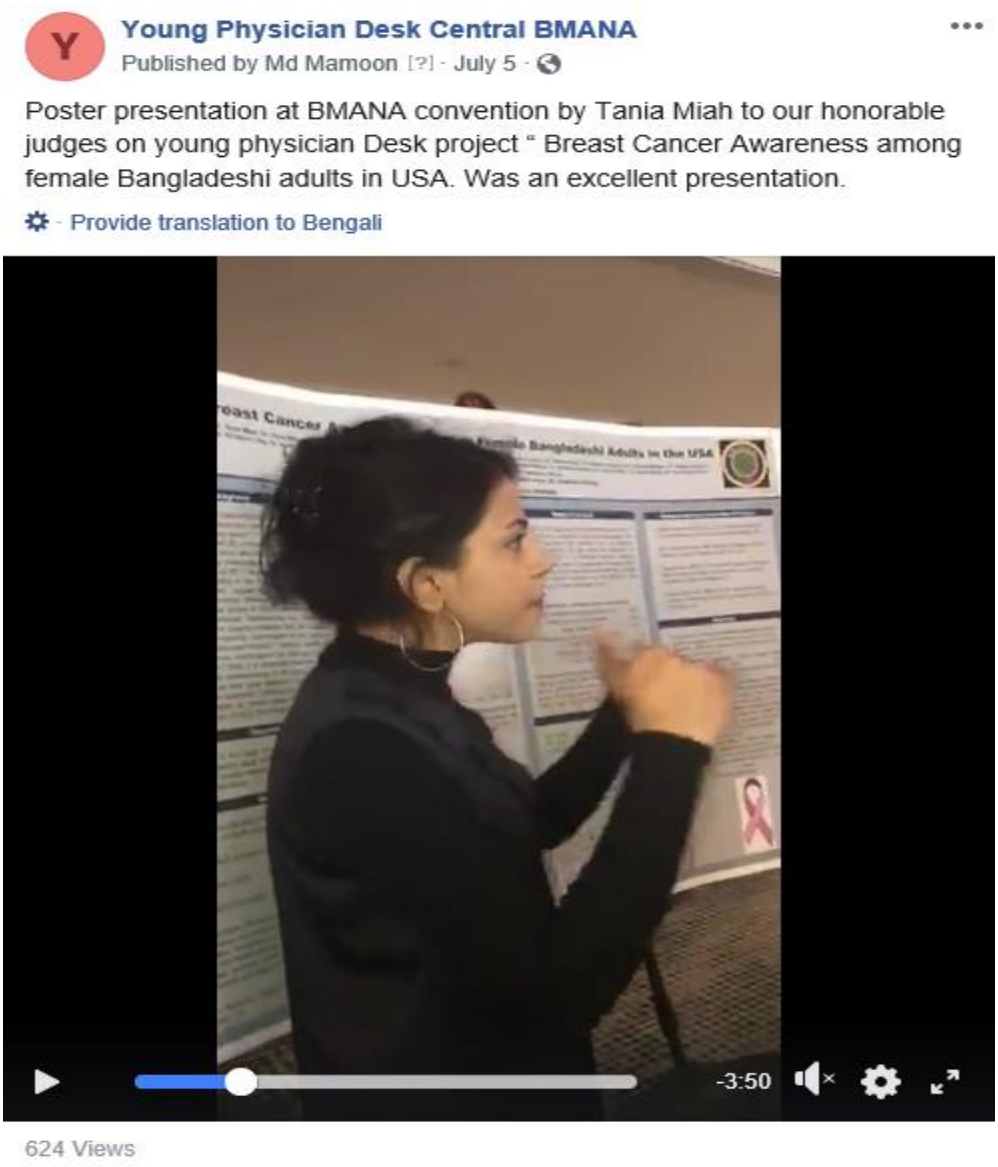


Md Mamoon is with **Salma Khan** and **5 others**.
July 5 ·

Poster presentation session at our Detroit BMANA convention in presence of several program directors. Our young doctors have presented 3 posters on behalf of Young physician desk central BMANA.

Farida Khatun and 74 others 5 Comments 2 Shares

Like Comment Share



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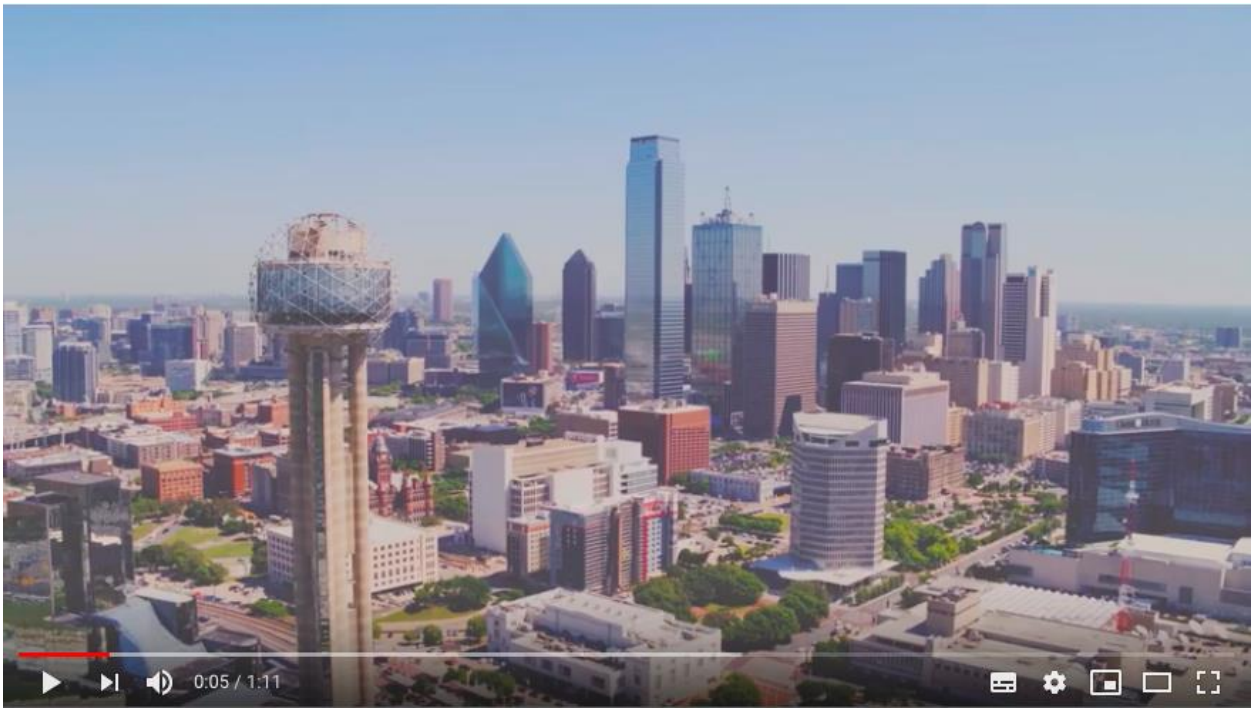
Our future.

Dr. Adiba Geeti with young doctors

Young doctors with their mentors.

BMANA CONVENTION 2020



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