MEDITIME

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Analysis of Co-morbidities in Children with Severe Acute Malnutrition in Eastern Region of Nepal.

Congenital Heart Defects

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Inside

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Editorial

Pollution responsible for quarter of deaths of young children

A polluted environment is a deadly one, particularly for young children. According to reports formulated by WHO, pollution is responsible for one in four deaths among all children under five; with toxic air, unsafe water and lack of sanitation being the leading cause. Each year 1.7 million under fives are dying due to polluted environment. As stated in report, their developing organs and immune systems, and smaller bodies and airways; make them especially vulnerable to dirty air and water. The harm from air pollution can begin in the womb and increase the risk of premature birth. After birth, air pollution raises the risk of pneumonia, a major cause of death for under fives, and of lifelong conditions such as asthma. It may also increase the risk of heart disease, stroke and cancer in later life. In May 2016, WHO announced that air pollution around the world is rising at an alarming rate, with virtually all cities in poorer nations blighted by unhealthy air. And we all know that Nepal continues to rank among the worst performers in protecting the human health and environment due to degrading air quality. So, it has been the serious issue now we have to pay attention to prevent next generation from getting diseases. Not only this, most Nepalese children are also suffering from malnutrition, the bitter truth we all know. If we do not pay good attention in time to minimize the polluted environment, such as quality of air, water and sanitation, it will be curse for the children to get birth as they have to suffer from different diseases by-birth. So, as action speaks louder than noise, I request for the action from each to minimize the pollution; rather than pointing towards government only.

In this issue, we are supported with articles related to pediatrics, raising the issues related to malnutrition and congenital birth defects. Beside this, it also includes the articles related to prostate cancer, pulmonary rehabilitation and many more. We always feel honored to share the information from our valued doctors with our readers. I thankfully acknowledge all medical fraternities for your continuous support to our MEDITIME, and wish similar support with valuable feedback and suggestions for improvement in it.

Lastly, I wish you all a very Happy New Year 2074and request you to make New Year resolution to contribute in making healthier environment.

Sudarshan Lal Shrestha
Editor in Chief

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Health News Line

People with mental health disorders at risk of stroke, study finds

Stroke is a leading cause of disability in the United States, and mental illness affects tens of millions of Americans each year. New research finds a link between the two, as psychiatric illness is found to raise the risk of stroke. The American Heart Association (AHA) that almost 800,000 Americans have a each year, and almost 130,000 people die from it.

Mental disorders also affect a large number of the U.S. population. According to the latest statistics from the National Institute of Mental Health (NIMH), over American adults aged 18 and above have had a form of mental illness in the past year. This represents nearly 18 percent of all American adults. New research connects mental illness with stroke, as those with, (PTSD), and other mental disorders seem to have an increased risk of stroke. The study was led by Jonah P. Zuflacht, a fourth-year medical student at Columbia University's College of Physicians and Surgeons in New York, and the findings were presented at the American Stroke Association's 2017.

The researchers examined data from the Healthcare Cost and Utilization Project (HCUP) database for California. The is the most comprehensive hospital care database in the U.S., and it includes information on hospital visits, in-patient stays, as well as ambulatory services. Zuflacht and colleagues found a total of 52,068 individuals who received hospital care for stroke between 2007 and 2009. Of these, 3,337 people also received care for depression, anxiety, PTSD, or other issues.

The team applied a case-crossover analysis to examine if psychiatric disorders led to an increase in the risk of stroke within several time periods. They found that people who had visited the hospital for a mental health concern were 3.48 times more likely to have a stroke within 15 days of their visit, and 3.11 times more likely within 30 days. The odds of a stroke decreased as the time period increased, although they remained significantly high for psychiatric patients for up to a year. The risk was 2.41 times higher within 90 days of the hospital visit, 2.23 times higher within 180 days, and 2.61 times higher within 360 days of their psychiatry-related hospital visit.

Although this is an observational study and the authors did not set out to establish causality, lead author Zuflacht speculates on possible explanations for the results. Psychologic distress, he explains, may cause the brain to react with a "" response - the body's natural reaction to a state of danger. This, in turn, triggers , which is the leading risk factor for stroke. Psychiatric disorders may also lead to changes within the cell, causing and oxidative stress, which are also believed to contribute in the risk of stroke, Zuflacht explains.

Breathing Bad Air

"Kasto dhulo" (So dusty) is a common phrase that most of us utter and hear all the time. The air around is polluted and along with the pollution of the air we are experiencing different health problems. According to World Health Organization (WHO), "Air pollution is contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere."

The polluted air we breathe has an impact on incidences of allergies. It could lead to both skin allergies and eye allergies. "Rashes are likely to appear when people are exposed to polluted air. Burning and irritation in the eyes are quite common," adds Dr. Bhusal, Consultant Physician at Green City Hospital.

Not only allergies but their are chances for one to suffer from psychological effects too when one is exposed either for a brief moment or for a long time to polluted air. "People are likely to experience anger, anxiety, irritation, headache," reveals Dr. Bhusal. They are also likely to suffer from chronic anxiety if they are exposed to the polluted air for a long time. As polluted air comprises of nitrogen dioxide, those who often come in exposure to such air are at a hight risk of suffering from respiratory and cordiovascular diseases.

Exposure to air pollution can lead to respiratory infections in children including childhood asthma. The WHO, in its website (www.who.int) adds, acute lower respiratory infections, in particular pneumonia, continue to be the biggest killer of young children and this toll almost exclusively falls on children in developing countries.

Air pollution has adverse effects on growing children as well. Pollution is likely to make an impact on the development and functioning of the lungs of children, as per Dr. Bhusal.

People, who walk on the roads, work in dusty environment, ride motorbikes are more prone to the health problems caused by air pollution. In addition to these, people with a weakened immune system are also more prone to get affected. Neonates and the elderly should be given much care and attention," informs Dr. Bhusal.

People living in city areas too are under bigger risk to suffer from air pollution effects. The use of face masks is an option to protect oneself. Vaccines for influenza and pneumonia are also helpful. So as to decrease air pollution in the Capital, Dr. Bhusal suggests, "Air pollution should be monitored and controlled. There should be a good coordination between the concerned departments of the government regarding the construction and development works so that pollution of the air can be controlled.

Bird flu in poultry farm in Pokhara alarms officials

The H5N1 influenza virus has been detected in a poultry farm in Pokhara-18, Kaski, raising alarm bells of a possible outbreak. The bird flu virus was detected in dead fowls at the poultry farm belonging to Mina Pariyar of Khaltemasina in Pokhara. The District Livestock Services Office (DLSO) confirmed the virus in the poultry farm after laboratory tests. Samples sent to the Regional Veterinary Laboratory after Pariyar reported death of a duck on February 17, tested positive. Dr Kedar Raj Pandey, chief of the laboratory, said the sample was later sent to the Central Veterinary Laboratory in Kathmandu for confirmation. At least 17 ducks and 11 chickens have died in the farm so far. The local administration has declared Khaltemasina area "bird flu infected area".

The District Bird Flu Control Coordination Committee has imposed a ban on the trade and transport of fowls and poultry products for 42 days. A rapid response team from Kathmandu, led by Dr Abadhesh Jha, arrived in Pokhara on Saturday to eradicate infected fowls. Thagendra Prasad Aryal, information officer at the DLSO, said domesticated birds within 500 meters periphery of Khaltemasina were being eradicated. "Monitoring and sample testing have been carried out in other parts of Pokhara as well. Authorities are on high alert," he added. The H5N1 virus was detected in various poultry farms at Batulechaur, Simpani, Birauta and Sedibagar of Pokhara in January 2013.

Excess sugar linked to Alzheimer's: Study finds a 'tipping point'

There's yet another reason to ditch the sweet stuff: scientists have found Alzheimer's disease could be caused by excess sugar. A new study has established a "tipping point" link between the blood sugar glucose and the disease, meaning people with high sugar diets could be at a greater risk of developing the degenerative neurological condition. About 70 per cent of the estimated 413,000 Australians with dementia have Alzheimer's, and more than 240 new cases of dementia are diagnosed each day, according to Alzheimer's Australia.

Research from the University of Bath found excess glucose damages a vital enzyme involved with inflammation response to the early stage of the disease. Abnormally high blood sugar levels, or hyperglycaemia, are a well-known characteristic of diabetes and obesity. Diabetes patients have an increased risk of developing Alzheimer's, where abnormal proteins aggregate to form 'plaque' and 'tangles' in the brain.

It was already known that glucose and its breakdown products can damage proteins in cells through a reaction called glycation. But now scientists have unraveled the specific molecular link between glucose and Alzheimer's disease.

Studying people both with and without Alzheimer's, they found in the early stages of Alzheimer's, glycation damages an enzyme called MIF (macrophage migration inhibitory factor). MIF plays a role in immune response and insulin regulation, and glycation limits its powers. So researchers believe that inhibition and reduction of MIF activity may be the "tipping point" in disease progression. As the disease progresses, the glycation of these enzymes increases. Professor Jean van den Elsen, from the University of Bath's department of biology and biochemistry, said: "We've shown that this enzyme is already modified by glucose in the brains of individuals at the early stages of Alzheimer's disease.

Analysis of Co-morbidities in Children with Severe Acute Malnutrition in Eastern Region of Nepal.

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Abstract

Introduction: Malnutrition is a common problem in developing countries and often associated with co-morbidities. The present study was undertaken with objectives of to find out the co-morbidities in children with severe acute malnutrition (SAM).

Materials and Methods: This was a hospital based study carried in 77 children with SAM, diagnosed on the basis of WHO criteria. Results: The age group of children was 1- 5 years (median age 23 months) with about 39% between 1-2 years. There were 38 males (49.3%). Low maternal education (60%), overcrowding (60%), lower- middle socioeconomic status(87%) were some of the predisposing factors observed. Pneumonia (51%), acute gastroenteritis (21%) and bacterial meningitis (8%) were common co- morbidities found. Associated abnormal laboratory parameters found were anemia (60%), leucocytosis (38%), hypoalbuminemia (36%) hyponatremia (31%), and hypokalemia.(17%). There was no mortality.

Conclusion: Presence of infections and biochemical abnormalities require urgent attention in SAM cases and appropriate treatment in hospital setting to improve their survival.

Introduction

Globally, more than one- third of under-five deaths are attributed to under nutrition and of these, 10% are severely malnourished. 1,2 To our concern, Nepal also shares this burden of malnutrition with its 29% under 5 children being underweight and 11% severely wasted.3 Due to lack of knowledge and health resources, malnutrition has been underlooked and most patients present at hospital with complications rather than malnutrition alone. The mortality rate of children with complicated severe acute malnutrition (SAM) in hospitalized set-up has remained high.2 Such high mortality has been attributed to co-morbidities such as infections and complications.4 There are very reports on co-morbidities in SAM.5,6 which has evaluated clinical and laboratory profile in these children especially from this region of the country, Therefore, we analyzed the presence of co-morbidities and complications in children with SAM so that appropriate treatment can be instituted promptly in order to improve their survival.

Patients and methods

This was a descriptive cross-sectional study carried out at Department of Pediatrics and Adolescent Medicine, B.P Koirala Institute of Health Sciences, Dharan, Nepal during February 2013 to January 2014. All Children of age 1 to 5 years were screened at admission for malnutrition using WHO criteria7. Among them, children with Severe Acute Malnutrition (SAM) were enrolled in the study. SAM was defined by using WHO criteria. 8 Children with suspected congenital malformation were excluded.

After admission, data were collected in a pre-tested questionnaire by interview technique. The parents of SAM children were informed about the study and each question was explained. The anthropometric parameters such as weight, height, and mid-arm circumference were recorded at admission using standard techniques.9 Weight was recorded with weighing Secca scale with accuracy of 50 g and crown to heal length in 1- 2 years with infantometer and height using stadiometer in 2-5 years age group, with sensitivity of 0.1 cm. Mid-arm circumference was measured with non-stretch measuring tape with sensitivity of 0.1 cm.

A detailed physical and systemic examination was performed. The investigations included hemoglobin, total and differential leukocyte counts, platelet counts, blood glucose, serum protein, albumin, urea, creatinine, sodium, potassium, X-ray chest and tuberculin test. Urine microscopy and culture were done, wherever required. 7 The disease classifications were used as per standard criteria. The children were treated with WHO criteria and followed for complications during the stay.

Ethical issues: The study was started after the approval of Institutional Ethical Review Board. A written informed consent was obtained from each parent of study subjects. The participants had option to withdraw from the study anytime during their hospital stay.

Table 1. Co-morbidities in children with severe acute malnutrition (n= 77)

Type of disease	n (%)	Age groups		P value*
		12-24months (n=30)	24-60 months (n=47)	
Pneumonia	39 (50.6)	16 (41.0)	23 (59.0)	0.81
Acute gastroenteritis	16 (20.8)	4 (25.0)	12 (75.0)	0.25
Bacterial meningitis	6(7.8)	2 (33.3)	4 (66.7)	1.00
Congenital heart diseases	3(3.9)	2 (66.7)	1 (33.3)	0.55
Febrile convulsion	3 (3.9)	2 (66.7)	1 (33.3)	0.55
Urinary Tract Infection	3(3.9)	0	3(100)	
Kalaazar	2 (2.6)	0	2 (100)	
Post-infectious glomerulonephritis	2(2.6)	0	2(100)	
Tuberculosis	2(2.6)	0	2(100)	
Cerebral palsy	1(1.3)	0	1(100)	

*Ch- square test, n- number of cases

Statistical analysis

Data were analyzed with Statistical Package for Social Sciences (SPSS) version 20 (Chicago IL). Chi-square test was used to test the significance level for the data of proportions; with Yates correction when sample size was less than five. A p value of < 0.05 was considered as significant.

Results

There were 446 children admitted in the hospital during the study period ; of these 188(42.2%) were malnourished as per WHO criteria. 7 Among them 77 (17.2%) were diagnosed as SAM. Out of the 188 malnourished children, 95 (85%) were wasted, 20 (10.6%) were stunted and 73(38.8%) children had both wasting and stunting.

Thirty children (38.9%) of the study population were between 1- 2 years (17 males) and 47 (61%) in the age group of 2- 5 years (21 males) female. Overall mean age of children with SAM was 23.2 months. Of 77 SAM cases, 71 (92.2%) had their weight for height below -3SD with no evidence of edema. The mean weight, height, mid-arm circumference were 8.7±1.6 Kg, (86.6 ±10.cm and 11.9 ±0.8 cm, respectively.

The characteristics of children with SAM are presented in Table 1. Median age of mothers was 26 years with age of marriage at 19 years and they had shorter birth spacing (median 1.6 years). About 60% of mothers were either illiterate

or had basic education of primary school level. Around 87% families belonged to lower socio-economic status. Of whom, 46.7 % had joint family, median number of family members was 6 and 64.9% were staying in overcrowding situation. About 78% of all children were fed with colostrum. The median period of exclusively breast feeding was 4 months. Nearly 90% children were completely immunized and the remaining 10% had partial immunization.

Pneumonia (50.6%) was the most common co- morbid illness with SAM followed by acute gastroenteritis (20.8%) and bacterial meningitis (7.8%).Children were sub-grouped between 12-24 months and 24-60 months, and it was found that there were no significant differences in distribution of illnesses between the two groups (Table 2).

The laboratory parameters are presented in Table 3. Anaemia, leucocytosis and leucopenia were observed in 59.7%, 37.7% and 7.8% of cases. Other abnormalities were hypalbuminemia (36.4%), hyponatremia (31.2%) and hypokalemia (16.9%). Impaired renal function was seen in 3 (3.9%) and another 3 (3.9%) children had associated urinary tract infection. None of the children had hypoglycemia at presentation. There was no mortality in SAH children.

Table 2. Laboratory parameters in severe acute malnutrition (n=77)

Abnormalities	n (%)
Leukocytosis (Total leucocyte count > 11,000/mm3)	29 (37.7)
Leukopenia (Total leucocyte count <4,000/mm3)	6 (7.8)
Anaemia (Hemoglobin < 11g/dl)	46 (59.7)
Hypoalbuminemia (serum albumin< 2.5 g/dl)	28 (36.4)
Hyponatremia (serum Na < 120 meq/l)	24(31.2)
Hypokalemia (serum K < 2.5 meq/l)	13(16.9)
Raised serum Urea (< 35 mg/dl)/Creatinine (> 0.5 mg/dl)	3 (3.9)
Urine culture positivity	3(3.9)

n- number of cases

Discussion

It appears that malnutrition is still a common problem in developing country like ours so much so that about 17% of children belonged to SAM and about 92% had weight for height less than 3 SD. Global prevalence of 16.1% was reported by Casie et al. 5 In contrast, a study from South-East Nigeria reported lower incidence (4.4%) of SAM in their 616 children. 6 Relatively higher incidence of SAM in the present study could be because of multifactorial in origin such as younger age of mother and lower educational status not having enough awareness regarding feeding practices, lower socioeconomic status, lesser duration of exclusive and total breast feeding than recommended. Keerthiwansa et al 10 found significant association of lower maternal education, lower paternal education, low family income and mother being a housewife in children with SAM. The gender distribution of cases was almost equal. The median age of children was 23 months, which was higher than the figure (14.3 months) reported by Kumar at al.11 Further, authors also found that 75.8% of their SAM cases had weight for height Z score less than 3SD, which was lower than ours finding. As such it appears that distribution of SAM patients may vary from region to region and accordingly nutritional rehabilitation should be planned for better recovery.

Regarding co-morbidities, pneumonia (50.6%) and acute gastroenteritis (20.8%) were the most common conditions at presentation in our cases. Other studies 6, 11-13 reported acute gastroenteritis being the most common co-morbid condition followed by respiratory tract infections in their cohort of SAM.

Kumar et al 11 reported other co-morbidities like tuberculosis, malaria, measles and HIV infection in their series. We did not find these conditions except tuberculosis in only 2.6% of patients. Instead, other diseases like bacterial meningitis, congenital heart diseases, febrile convulsions, kalaazar, and urinary tract infections were present but in small proportion of cases. This shows that variation in spectrum of diseases in SAM can be found. However, two common morbidities associate with SAM such as pneumonia and acute gastroenteritis should be looked on priority basis at hospitalization and managed appropriately. Sepsis is another severe condition, which has been found earlier 11, 14 were not present in any of our patients.

Increased serum urea, creatinine and electrolyte disturbances are indicative of acute kidney injury with multiple complications at hospitalization. The situation is further aggravated by anemia and hypoalbuminemia, which can lead to, impaired immune status and thus increased chances of infections. Presence of leukocytosis and leucopenia further supports its presence in these children.

These children are often complicated with respiratory and gastrointestinal infections along with biochemical abnormalities at hospitalization requiring urgent attention and therapy. Treatment of conditions as per WHO guidelines have been advocated for rapid normalization of conditions.15 A recent report from India on a larger cohort of children with SAM demonstrated that one can achieve higher cure rates in uncomplicated SAM even with community based management of these cases.16 This is essential to break the malnutrition-disease vicious cycle phenomenon and improved survival.

Competing interest: None

Author's contributions: AT and GSS - involved in study design, conduction, data analysis and drafting of manuscript and OPM- helped in data analysis and critical revision of manuscript.

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Congenital Heart Defects

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Congenital Heart Defects (CHD) is "a gross structural abnormality of the heart or intrathoracic great vessels that is actually or potentially of functional significance." Heart defects are the most common defect & the leading cause of birth defect related deaths.The incidence of CHD in general population is about 1% or more precisely, 8 to 12 of 1,000 live births. This does not include PDA (Patent Ductus Arteriosus) in premature infants which have potential to close spontaneously in few months of life.The relative frequency of different major forms of CHD also differs. CHD involves defect in septum within the heart, valves & great vessels in isolation or in combination which results in severe form of complex defect. Signs and symptoms depend on the specific types of the defects. About 2/3 of these manifests in neonatal period. 1/3 of severe form of CHD manifested in neonatal period dies, especially during the first week of life if no proper treatment is given.

Nobody is immuned against CHD. The cause of CHD may be either genetic or environmental, but is usually a combination of both (Genetic Environmental Interaction), unknown in most of the cases (~90%). Known Environmental factors include certain infections during pregnancy (Rubella, Cytomegalo Virus, Herpes Virus, Coxsackie Virus B in first trimester), use of certain medications or drugs (such as Amphetamines, Lithium, Thalidomide, Hydantoin, Progesterone, Estrogen), alcohol or tobacco, exposure to radiation, maternal illness (Diabetes mellitus, Hypertension, Phenylketonuria, Systemic Lupus Erythematosus), prepregnancy folate deficiency. Parents being closely related, poor nutritional status or obesity in mother, having parent and siblings with a CHD is also a risk factor. A number of genetic conditions associated with congenital heart defects include Down Syndrome, Turner Syndrome, Noonan Syndrome, Marfan Syndrome, Holt-Oram Syndrome, Hurler Syndrome, DiGeorge Syndrome. Also present with some association like VACTERL.

CHD are classified into 2 main groups. Acyanotic & Cyanotic heart defects depending on whether the child has potential to turn bluish colour at rest or during exertion. Acyanotic Heart defects include shunt lesions and obstructive lesions. Ventricular Septal Defect(VSD), Atrial Septal Defect(ASD), Patent Ductus Arteriosus(PDA), Atrio-Ventricular Septal Defect(AVSD), Aortopulmonary Window(AP Window) are shunt lesions and obstructive lesions are Pulmonary Stenosis, Aortic Stenosis, Coarctation of Aorta, Interruped Aortic Arch. VSD is the most common acyanotic congenital heart defect. Cyanotic heart defects are usually complex and includes Tetralogy of Fallot(TOF), Total Anomalous Pulmonary Venous Connection(TAPVC), Transposition of Great Arteries(TGA), Tricuspid Atresia, Pulmonary Atresia, Truncus Arteriosus. Other complex defects include Ebstein's anomaly, Double Outlet right ventricle, Common Atrium, Univentricular heart with Hypoplastic right or left ventricle.TOF is the most common cyanotic heart defect.

Signs and symptoms are related to type and severity of the heart defects, ranging from asymptomatic and possible for some CHD to go undetected throughout life to shortness of breath, fast heart beat, growth failure, feeding difficulties with prolonged feeding time, excessive perspiration, irritability, exercise intolerance, persistent blueness of tongue, worsened by crying, recurrent respiratory tract infection, recurrent episodes of heart failure, squatting to relieve paroxysmal hyperpnoea, fainting, presence of extra-cardiac congenital malformation needing early intervention.

Electrocardiography (ECG), Chest X-ray and Echocardiography (ECHO) is main investigations. ECHO is the most important imaging modality for the diagnosis. Sometimes other modalities like Cardiac Catheterization, CT Angiogram may be necessary for the further information in certain very complex cases. Foetal ECHO is used to diagnose heart defects prenatally.

As cause of the CHD is unclear in most of the cases, no much can be done for its prevention, and are partly preventable through Rubella vaccination, the adding of iodine to salt, adding of Folic Acid to certain food products, avoidance of alcohol, tobacco, radiation exposure, use of medications only on physician advice during pregnancy, treatment of malnutrition, prevent from being obesity of mother etc.

Sometimes isolated mild form of small defects improve without treatment, some needs only regular follow up. Most of the time CHD is serious and requires early catheter based intervention or surgery and/or medications. Some complex defects even need multiple surgeries with lifelong medications too.

Pulmonary Rehabilitation

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Comprehensive pulmonary rehabilitation (PR) programs are well established as a means to enhance standard medical therapy, control and alleviate symptoms, optimize functional capacity, and reduce disability for patients with chronic lung diseases. The primary goal is to restore the patient to the highest possible level of independent function. This can be accomplished by helping patients to become (1) more knowledgeable about their disease, (2) more actively involved in their own healthcare, and (3) more independent in performing daily care activities.

The typical program includes multidisciplinary participation by physicians, nurses, respiratory and physical therapists, exercise specialists, psychologists, and other healthcare professionals with particular expertise. The program should be tailored to the needs of the individual patient. To be successful, it should address important emotional and psychosocial problems as well as help to optimize medical therapy to improve lung function.

Any patient with symptomatic chronic lung disease can be a candidate for PR. The greatest experience with PR has been in patients with chronic obstructive pulmonary disease (COPD); PR is also found to be a beneficial adjunct to surgical programs such as lung transplantation and lung volume reduction surgery. In these settings, PR not only helps to prepare patients for surgery and facilitate their recovery, but also aids in selection by assisting both patients and staff to better understand and weigh the risks and potential benefits.

Patients should be stabilized on standard medical therapy and evaluated carefully before entering a program so that appropriate and realistic goals can be set. Pulmonary function tests are used to characterize the lung disease and quantify its severity; however, patient selection should be based on symptoms and disability, not on arbitrary criteria based on lung function alone. Exercise testing helps to assess initial exercise tolerance, evaluate possible blood gas changes (e.g., exercise-induced hypoxemia), and plan a safe and appropriate training program.

The components of a comprehensive PR program include education, instruction in respiratory chest physiotherapy techniques, psychosocial support, and exercise training. Educating patients and significant others about lung disease and teaching them specific ways to deal with problems are essential. Educated patients are better able to cope with their disease, easier to deal with, and more likely to avoid unnecessary visits to physicians' offices, emergency departments, and hospitals. Patients should be taught appropriate chest and respiratory therapy techniques. Proper coughing and postural drainage techniques are important for all patients, especially those with excess mucus production. Techniques of pursed-lip and diaphragmatic breathing and relaxation training helps to improve ventilatory efficiency and assist patients in gaining control over the frightening symptom of dyspnea. Patients with respiratory therapy equipment should be instructed in its proper use, care, and cleaning.

Patients with significant hypoxemia should be evaluated for optimal methods of continuous oxygen therapy and instructed in its proper use because oxygen therapy has been shown to improve survival and to reduce morbidity. Lightweight portable systems should be emphasized for ambulatory patients.

Patients with chronic lung disease have significant psychosocial problems as they struggle to cope with symptoms that are often poorly understood. They become depressed, frightened, anxious, and dependent on others to care for their needs. Progressive breathlessness leads to a vicious fear-dyspnea cycle in which increasing dyspnea produces more fear and anxiety that, in turn, leads to more dyspnea. In PR, these problems can be dealt effectively by enthusiastic and supportive staff, who can communicate with, understand, and motivate these patients. Family members and friends should be included in program activities. Support groups and group therapy sessions are also effective. Patients with severe psychiatric disorders may benefit from individual counseling and psychotherapy. Psychotropic drugs are generally reserved for these patients with severe levels of psychological dysfunction.

Exercise training provides both physiological and psychological benefits and is an ideal opportunity for patients to practice methods for controlling dyspnea. The exercise program should be safe and designed appropriately for each patient. Walking programs are particularly useful and have the added benefit of encouraging patients to expand their social horizons. Other types of exercise (e.g., cycling, swimming) are also effective. Because many patients with chronic lung disease have limited exercise tolerance, emphasis should be placed on increasing endurance, (the time of sustained activity). Exercise training of the upper extremities may be beneficial for the many pulmonary patients who report disabling dyspnea for daily care activities involving the arms (e.g., lifting, grooming) at work levels much lower than for the legs.

In recent years, increased attention has been drawn to peripheral muscle dysfunction in patients with chronic lung disease and the role of muscle fatigue as a limitation to exercise tolerance. This has stimulated new research initiatives in this area. Specific peripheral muscle strength and endurance training regimens have been developed and incorporated into PR programs. Although ventilatory muscles can be trained successfully, the role of this type of training in improving exercise performance has not been clearly established.

Exercise-induced hypoxemia occurs unpredictably in patients with COPD who may not be hypoxemic at rest. Hypoxemia is not a contraindication to exercise training. Such patients can be given convenient, lightweight portable systems for ambulatory oxygen so that exercise can be performed safely.

As an effective & preventive healthcare intervention, PR has proved to be cost effective in decreasing both hospitalization days and the use of expensive medical resources. After rehabilitation, patients have an improved quality of life, reduced symptoms, increased exercise tolerance, more independence, increased ability to perform activities of daily living, and improvement in psychological function (with less anxiety and depression and increased feelings of hope, control, and self-esteem). Even after a short-term intervention, benefits typically last for at least 1 to 2 years.

Glimpse of Nepal Pharma Expo 2017

Factory Operation Director Mr. Ashesh Bhandary receiving Asian S.N. Rao Excellency Award during Pharma Expo 2017

Health Minister Mr. Gagan Thapa Visiting Our Stall

CEFDINER

Product Information

Brand Name	: DINIR
Generic Name	: Cefdinir
Strength and Dosage form	: 125mg DT, 250mg DT
Therapeutic Category	: 3rd Generation Cephalosporin

Antibiotics have been used for the last 70 years in treating patients with different bacterial infections. Since 1940s, these drugs have reduced the illness & death of the patients from various infectious diseases, However, overuse and misuse of these drugs have contributed in increasing antibiotic resistance, Globally, antibiotic resistance is a growing public health concern, Not only treatment of the patient infected with an antibiotic resistanct bacterium will be more difficult, but the resistant bacterium may spread to the other people as well. So a rational use of antibiotic is a prime focus in today's period.

Cephalosporins are a group of broad spectrum, semi-synthetic beta-lactam antibiotics derived from the mould cephalosporium. The early cephalosporins differed mainly with respect to pharmacokinetic characteristics. Later generations are more resistant to β-latam destruction and are often characterized by extended but variable spectra. They are effective in treating different bacterial infections.

TIME Pharamaceuticals, for the 1st time in Nepal introducing the 3rd generation cephalosporin molecule CEFDINIR.

Pharmacology

Pharmacodynamics

Cefdinir binds to one or more of the penicillin-binding proteins (PBPs) which inhibits the final transpeptidation step of peptidoglycan synthesis in bacterial cell wall, thus inhibiting biosynthesis and arresting cell wall assembly resulting in bacterial cell death.

Pharmacokinetics

Absorption

In paediatric patients 6 months to 12 years of age who received a single 7 mg/kg oral dose of cefdinir as the suspension, peak plasma concentration is attained 2.2 hours after the dose and averaged 2.33 mcg/ml. Single 14 mg/kg oral doses in these patients resulted in peak plasma concentrations averaging 3.86 mcg/ml at 1.8 hours after the dose.

Distribution

The volume of distribution of cefdinir averages 0.67 L/kg in children 6 months to 12 years of age and 0.35 L/kg in adults. 60-70% bound to plasma proteins; binding is independent of drug concentrations.

Metabolism and Elimination

It is not appreciably metabolized. The drug is excreted principally via renal excretion. Renal dysfunction reduces the clearance of cefdinir and results in the need to reduce dosing frequency. Approximately 6% of a cefdinir dose is removed by hemodialysis. No dosage adjustment is needed in patients with hepatic impairment. The half-life of cefdinir is 2.2 ± 0.6 hrs after a 7 mg/kg dose and 1.8 ± 0.4 hrs after a 14 mg/kg dose.

Palatability

Most patient compliance antibiotic for children, with good palatable taste and smell.

PIDJ, 2000
PIDJ, 2001

Indications

- Acute Otitis Media
- Pharyngitis & Tonsillitis
- Respiratory Tract Infections
  - Acute Exacerbation of Chronic Bronchitis (AECB)
  - Acute Sinusitis
  - Community Acquired Pneumonia
- Skin & Skin Structure Infections

Dosage

Children 13 years of age or older or those weighing 43 kg may receive the usual adult dosage of cefdinir. The adult dose of cefdinir is 300 mg every 12 hours for 5-10 days or 600 mg once daily for 10 days. For paediatric patients beyond the neonatal period, the American Academy of Paediatrics (AAP) recommends a cefdinir dosage of 14 mg/kg daily given in 1 or 2 divided doses (maximum 600mg daily) for the treatment of mild to moderate infections.

Side effect

Diarrhoea, rash, vomiting, oral thrush, abdominal pain, vaginitis or vaginal moniliasis

Contraindication

Hypersensitivity to cephalosporin.

Special Precaution

Penicillin-sensitive patients, superinfection, seizure, pseudomembranous colitis, pregnancy, lactation, renal or hepatic insufficiency.

Drug Interaction

- Concomitant administration with antacids and iron reduce the rate and extent of absorption.
- Probenecid reduces renal elimination.

Pregnancy Category

Category B

Administration

May be taken with or without food. Avoid a high-fat meal

Storage

Oral: Store at 25°C

Winner of MEDITIME 20th Issue:

- ***Dr. Gambhir Lal Rajbhandari***
  Cardio Thoracic Surgery
  Kathmandu
- ***Mr. Hari Datta***
  CMA
  Narayangarh
- ***Dr. Prabesh Neupane***
  Cardiologist
  SGNHC, Kathmandu
- ***Dr. Dinesh Gautam***
  MD Physician
  Lumbini Zonal Hospital
- ***Dr. Shankar Baral***
  MD Medician
  Gandaki Medical College, Pokhara
- ***Dr. Bibhuti Upreti***
  MO
  Kathmandu
- ***Dr. Raj Kishore Pandit***
  MD Obs and Gynae
  Janakpur
- ***Dr. Achyut Pokharel***
  Dermatologist
  Narayangarh

प्रोष्टेट क्यान्सर - निदान र उपचार

प्रो. डा. अर्जुन देव भट्ट
वरीष्ट कन्सल्टेन्ट युरोलोजिष्ट
मेडिकेयर नेशनल हस्पिटल एण्ड
रिसर्च सेन्टर लि. चावहिल, काठमाण्डौं

झन्डै ५०% पुरुषहरुको प्रोष्टेट ग्रन्थिमा ५० वर्षको उमेर भन्दा अगाडि क्यान्सर उतपत्ति भइसक्छ भन्ने तथ्य परिक्षणले देखाएको छ । बीर्यको करिब २०% तरल पदार्थ स्रावित गर्ने प्रोष्टेट ग्रन्थिको अति शुक्ष्म कोशिकामा क्यान्सरको सुरुवात त्यसको आकार र रुप फरक भएर प्रकट हुने गर्दछ । तर पनि सबै पुरुषमा यसरी सुरुवात भएको क्यान्सरको वृद्धि उग्र रुपले हुँदैन । त्यसैले अधिकांश पुरुष यस्तो प्रोष्टेट क्यान्सर (अर्वुद) सुरुवातको पिडित बन्दैनन् । तर थोरै प्रतिशत पुरुषमा यो अर्वुद विकशीत भएर उग्ररुप लिन्छ र प्रोष्टेट ग्रन्थिबाट बाहिर लिम्फ ग्रन्थि, हड्डी, फोक्सो जस्ता अङ्गमा फैलिदै जान्छ । यसले शरिरमा प्रतिकूल असर पार्दछ ।

पश्चिमा देशहरुमा प्रोष्टेट क्यान्सर यति व्यापक छ कि यो षुरुषमा देखापर्ने दोश्रो मुख्य अर्वुद रोग हो । ती देशमा यो रोगको पहिचान, पूर्ण निदान, उपचार तथा निगरानीमा अर्बौं डलर खर्च हुन्छ । हाल नेपालमा प्रोष्टेट क्यान्सर २५ वर्ष अगाडिको दाँजोमा निकै धेरै पहिचान हुने गर्दछ । यो तथ्यले चिकित्सकहरुको प्रोष्टेट क्यान्सर पहिचान गर्ने क्षमतामा वृद्धि भएको, विशेषज्ञहरुको संख्या बढेको, पिएसए जस्ता परिक्षणको उपलब्धता शुलभ भएको र स्वयं पुरुषहरु केहि मात्रामा प्रोष्टेट क्यान्सर सचेत भएर स्वास्थ्य परिक्षणका लागि सामेल हुने गरेको प्रमाणित हुन्छ । २५ वर्ष अगाडि प्रोष्टेट क्यान्सर नेपालमा पहिचान हुँदा प्राय शरिरका विभिन्न अङ्गमा फैलिएको अवस्थामा निदान हुन्थ्यो भने हाल अर्वुदको सुरुवातमा पनि रोग निरुपण हुन सक्छ ।

प्रोष्टेट क्यान्सर उग्रताको पहिचानः

ग्रन्थिबाट बाहिर फैलिएर पुरुषको स्वास्थ्यमा बाधा पुऱ्याउने र मृत्युको कारण सम्म बन्न सक्ने प्रोष्टेट क्यान्सर चिकित्सकहरुको निम्ति चुनौति पूर्ण हुन्छ । प्रोष्टेट क्यान्सरको व्यापकताको बाबजुत पनि यो अर्वुदको कारण बारे आजको विज्ञान अनभिज्ञ छ । शव परिक्षणको आधारमा ८० वर्षको उमेरमा ८० प्रतिशत पुरुषमा प्रोष्टेट क्यान्सर देखा परे पनि चिकित्सक संयोग रोग भने निकै कम हुन्छ । तर पनि पुरुषको आयुमा देखापरेको ठुलो वृद्धिले गर्दा पश्चिम देशमा प्रोष्टेट क्यान्सर प्रत्येक ५६ पुरुष मध्ये एउटा व्यक्तिमा पहिचान गरिन्छ । अमेरिकामा सबै भन्दा व्याप्त फोक्सोको क्यान्सर पछि प्रोष्टेट क्यान्सरले दोश्रो ठाउँ ओगट्दछ । दुर्भाग्य बस कुनै पनि त्यस्तो रक्त परिक्षण छैन जसको आधारमा प्रोष्टेट क्यान्सरको पहिचान होस् र त्यसको उग्रताबारे सूचना प्रात गर्न सकियोस् । खाली प्रोष्टेट ग्रन्थिको तन्तु बाट निकालिएको जाँच - बायोस्पीले मात्र क्यान्सर कोशिका भएको र तिनीहरुको फैलन सक्ने अवगुणबारे चिकित्सकलाई जानकारी दिन सक्छ ।

परिक्षण मध्ये पिएसएको छुट्टै र उच्च स्थान छ । यद्यपी यो जाँच प्रोष्टेट क्यान्सर निश्चित होइन तर पनि धेरै जसो प्रोष्टेट अर्वुद भएका बिरामीमा पिएसएको रक्तस्तर उच्च हुन सक्ने भएकाले सन् १९८६ पछि यसको चिकित्सक प्रयोग हुन थाल्यो । पिएसए भन्ने एक प्रकारको प्रोटिन प्रोष्टेट ग्रन्थिमा बन्दछ र यसले स्खलनभएको बीर्यलाई पातुलो पारेर शुक्रकीटको पौडिने वातावरणमा सहयोग पुर्याएर गर्भाधानमा महत्वपूर्ण भूमिका खेल्दछ । पिएसए बीर्यमा हुने तत्व भएपनि ज्यादै थोरै मात्रामा यो रक्त सन्चार सम्म पनि पुग्दछ । रक्तसन्चारमा उपलब्ध भएको पिएसएको स्तर नापेर प्रोष्टेट क्यान्सर बारे केहि महत्वपूर्ण अनुमान गर्न मिल्ने भएकाले चिकित्सक बीच विभिन्न मतभेद हुँदा पनि पिएसएको जाँचले अझै पनि प्रोष्टेट क्यान्सर परिक्षणमा आफ्नो स्थान गुमाई सकेको छैन । प्रोष्टेट क्यान्सर कोशीकाले पिएसए सामान्य प्रोष्टेट कोशीकाले भन्दा कम बनाउने भएपनि बिभिन्न कारण बस यो रोगमा पिएसए रक्त सन्चारमा बढी पुग्ने भएकाले यो जाँच प्रचलनमा आएको हो । मूत्र संक्रमण, प्रोष्टेट ग्रन्थि को शोथ जस्ता अवस्थामा पनि पिएसएको रक्त स्तर उच्च हुने भएकाले यी अवस्था संग प्रोष्टेट क्यान्सरको निदान गर्दा औधी सतर्क हुनु पर्दछ । यदि अर्वुदकै कारण पिएसएको स्तर उच्च भएको हो भने त्यसले प्रोष्टेट क्यान्सर कति सम्म उग्र भइसकेको हुन सक्छ र त्यो अरु अङगमा फैलिएको हुन पनि सक्छ भन्ने सूचना पनि केहि हदसम्म प्रवाह गर्न सक्छ । उपचार कति सम्म फलदाई हुन सकेको छ भन्ने पनि पिएसए जाँच बाट अटकल काट्न सकिन्छ । त्यसैले यो रक्त परिक्षण प्रोष्टेट क्यान्सर बिरामीमा क्रमिक तरिकाले गर्नु पर्ने हुन्छ ।

मूत्र तथा रगतको विभिन्न परिक्षण, मृगौला र कलेजोको कार्य सूचक रक्त जाँचहरु, अल्ट्रासोनो ग्राफी, एक्सरे, सीटी स्कान, एम आर आई र विकिरण हड्डी परिक्षण प्रोष्टेट क्यान्सर रोग निदान तथा ग्रन्थिबाहिर निस्केको अवस्था बारे चिकित्सकलाई उपचारको निम्ति नभई नहुने थुप्रै महत्वपूर्ण सूचना प्रवाह गर्दछन् ।

के प्रोष्टेट क्यान्सरका लक्षण हुन्छन् ?

प्रोष्टेट ग्रन्थिको साना कोशीकामा भरखर देखा परेको अर्वुद सुरुवातले कुनै बाहिरी लक्षण देखाउँदैन । तर प्रोष्टेट ग्रन्थिलाई खाली क्यान्सर संभाव्य आस्रय स्थान भनेर मात्र हेर्नु हुँदैन । प्रोष्टेट ग्रन्थिका महत्वपूर्ण क्रिया तथा गतिविधि छन् । त्यसको अलावा पुरुषको उमेर वृद्धि संगै शरिरमा देखा पर्ने हर्मोनल फरकहरुले यो ग्रन्थिलाई निरन्तर तनावमा राखेको हुन्छ । प्राय ४० वर्षको उमेर पछि प्रोष्टेट बढ्ने र त्यसले मूत्र नलीको सुरुको भाग चारै तिरबाट घेरेर राखेको हुँदा मूत्र प्रावहमा असर पर्ने गर्दछ । त्यसैले मूत्र सन्चालनमा देखिएका लक्षण प्रोष्टेटको सामान्य वृद्धिले हो वा त्यो विकशीत हुँदै गरेको क्यान्सरले हो, अथवा दुबै अवस्थाको सममिश्रण हो छुट्याउन सकिने ठाँउ हुन्न । पिसाव फेर्न गएपछि केहि कुरेर मात्र पिसाव हुने, पिसावले च्यापे पछि रोक्नै गाह्रो हुने, रात्री समयमा बारम्बार पिसाव फेर्न उठी राख्नु पर्ने, पिसावको धारा मसिनो र लुलो हुने, एकै पटकमा सबै पिसाव ननिख्रने, बाँकी रहेको अनुभव हुने, कनेर पिसाव निकाल्नु पर्ने, पूरा पिसाव भएको आनन्द नआउने, पिसाव पोल्ने, पिसावमा रक्त स्राव हुने जस्ता लक्षण पनि देखा पर्न सक्छन् । तर यी लक्षणका आधारमा मात्रै प्रोष्टेट क्यान्सर छ भन्न मिल्दैन ।

ग्रन्थि बाहिर प्रोष्टेट क्यान्सर फैलिएर लिम्फ ग्रन्थि, फोक्सो इत्यादि महत्वपूर्ण अङ्गमा पुगेपछि कमजोरी, दुबलाउने, रक्तअल्पता, हड्डी दुःख्ने, सानो चोटमा पनि हड्डी भाँचिने जस्ता लक्षण देखिन सक्छन् । तर पनि यी कुनै लक्षणलाई प्रोष्टेट क्यान्सर रोग विशेष मान्न सकिन्न । खास गरेर ६० वर्ष नाघेको पुरुषमा यी लक्षण देखा परे प्रोष्टेट क्यान्सर शंका गरेर आवश्यक अनुसंधान गर्नु उपयुक्त हुन्छ ।

प्रोष्टेट क्यान्सर व्यवस्थापनः

प्रोष्टेट क्यान्सर निदान भएपछि चिकित्सक तथा बिरामीले आपसी पूर्ण समझदारीका साथ महत्वपूर्ण एक प्रश्नको उत्तर दिनुपर्ने हुन्छः सक्रिय उपचार गर्ने वा खाली निगरानीमा बस्ने । यस्तो निर्णय लिनुपर्ने हुन्छ किन भने प्राय ७५ प्रतिशत प्रोष्टेट क्यान्सर बिरामीको मृत्यु अरु कारणबाट हुन्छ र क्यान्सरले शरिरमा कुनै घातक असर पारेको हुन्न । प्रोष्टेट क्यान्सर भएका बिरामीको जति बढि उमेर हुन्छ त्यतिनै यो रोगको उग्रता कम हुन्छ । प्रोष्टेट क्यान्सर प्राय १०/१५ वर्ष लगाएर बिस्तारै बिकशीत हुँदै जाने भएकाले जटील रोग भएका बिरामीको क्यान्सर भन्दा अरु रोगबाट नै मृत्यु हुने सम्भावना प्रशस्त रहन्छ । त्यसैले प्रोष्टेट अर्वुदको सक्रिय उपचार गर्ने भन्ने निर्णय लिनु पहिले पुरुषको उमेर, उसमा भएका जटील रोग, समग्र स्वास्थ अवस्थाको तर्जुमा गर्नु पर्छ । उपचार गर्नु पर्ने भए गरिने उपचार संलग्न संभाव्य जटीलता र त्यसबारे खुद बिरामीको दृष्टिकोणलाई ध्यान दिएर मात्र प्रोष्टेट क्यान्सर व्यवस्थापनको ढाँचा कोर्नु पर्दछ ।

समग्रमा राम्रो स्वास्थ अवस्था भएको कम उमेरको बिरामीमा प्रोष्टेट ग्रन्थिको भित्र अर्वुद सिमित रहेको पुष्टि भए बिरामीको शल्यक्रिया गरेर रोगमुक्त पार्ने चेष्ठा गर्नुपर्दछ । कुनै हालतमा बिरामीले शल्य उपचारलाई आत्मसाथ गर्न नचाहे विकिरण उपचार बाट रोग मुक्त हुने सक्दो बढी प्रयत्न गर्नु उत्तम हुन्छ ।

त्यस्ता बिरामी जस्को उमेर ७० नाघेको छ, समग्र स्वास्थ्य ज्यादै कमजोर छ तर तन्तु जाँचले क्यान्सरको उग्रता तल्लो स्तर भएको अडकित गरेका खण्डमा सक्रिय उपचारमा नगएर खाली निगरानीमा रहनु बढी बुद्धिमत्त हुन्छ ।

मूत्र सन्चालनमा समस्या भएका बिरामीलाई शल्यक्रिया गरेर मूत्र बेग व्यवस्थापन गरिन्छ ।

अण्डकोशमा अप्रेशन गरेर पुरुष हर्मोनको रक्तस्तर निम्न पार्दै प्रोष्टेट क्यान्सरको वृद्धि रोक्ने तथा हड्डीको पीडामा सुधार ल्याउन सकिन्छ । यो शल्यक्रिया पछि पनि आवश्यकता अनुसार हर्मोन, रसायन तथा विकिरण जस्ता विभिन्न उपचारले बिरामीमा देखिएका लक्षणलाई उपचार गर्न सकिन्छ ।

प्रोष्टेट क्यान्सर ग्रन्थिबाट बाहिर निस्केर शरिरको बिभिन्न भागमा फैलिएको अवस्थामा कुनै पनि उपचारले पूर्ण तथा स्थाइ रुपमा रोगलाई निर्मुल पार्न सक्दैन ।

प्रोष्टेट क्यान्सर बिरामीले जुनसुकै उपचार अपनाएको भएपनि चिकित्सकहरुको सक्रिय निगरानीमा रहनु पर्ने हुन्छ ।

STEM CELL THERAPY FROM MENSTRUAL BLOOD

Sweta Rauniyar Shah
PDO

Intoduction:

Menstrual blood has always been an important and the most emerging part of research.

Menstrual blood represents a novel source of stem cells and is recognized to have a remarkable capacity in the lining of the uterus for regeneration after each menstrual cycle. Extraction of this rich source of cells is efficient and noncontroversial. Stem Cells from Menstrual blood could potentially be incorporated into treatments for stroke, Alzheimer's disease and Lou Gehrig's disease, or amyotrophic lateral sclerosis, kind of puts a different spin on things.

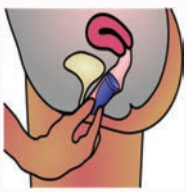
Definition:

Before coming to menstrual blood stem cells, what are cells? Well, cells are the basic structural, functional, and biological unit of all known living organisms that has the capacity to replicate independently.

While stem cells are a group of unspecialized cells that can be transformed into almost any type of cell given the correct genetic impulse and chemicals.

Advancing, menstrual blood stem cells are the cells extracted from the menstrual blood. Menstrual blood-derived stem cells (MenSCs) are a novel source of stem cells that can be easily isolated non-invasively from female volunteered donor without ethical consideration.

How is it collected cultured and stored:



The blood is collected during a woman's menstrual period by using a medical-grade silicone menstrual cup in place of a tampon or sanitary napkin, which is inserted by the physician. Depending on the patient's menstrual flow, the menstrual cup should be in place 1-4 hours, but no longer than 4 hours. During this time, the patient should go about their normal routine and return to the physician's office for removal. The collected menstrual fluid is placed into the menstrual collection container with media, tightly closed and secured, then gently inverted to mix the media solution with the menstrual fluid.

These are cultured in temperature controlled rooms and given the required chemicals and genetic impulse can be specified in the type of cell as per the requirement i.e. cardiac, nerve, skin etc.

This procedure is time consuming and requires staff with a specific expertise.

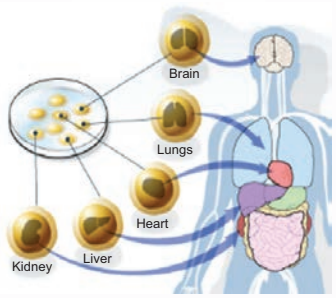
Hence, the use of uncontrolled rate freezing in which the specimen is first cooled down to -4°C and then directly deposited into a freezer at 80°C or put into liquid phase nitrogen cylinders.

How can it turn into new era of medicine:

Well, studies have shown that these cells have the capacity to turn into almost any type of specified cells. Since, it can be transformed into the required type of cell it can be used up for the required diseased condition or in disorders to heal the body of it.

In treatment of diabetes:

Three mice induced with Diabetes were injected with insulin producing stem cells that was modified using chemicals, this resulted in eradication of diabetes and they did not require any other insulin or drugs in a test performed up to six months. They were completely healthy during the entire period and no sign of hyperglycemia was seen.

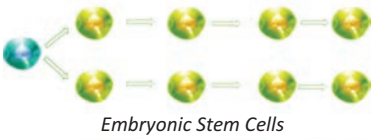


In treatment of neurological disorder (Potential in dementia):

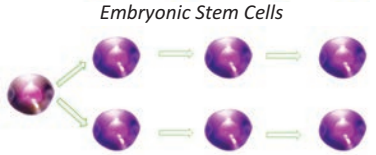
Treatment using stem cells in studies have confirmed that they can form completely new neurons and also treat those that are degenerating. Since, it has shown highest potential in the treatment of dementia. This can come up to be alternate therapy.

Low risk of turning to cancer cell:

As, embryonic stem cells have the capacity to divide forever, there is a high risk for them in turning into cancer cells. But, as the menstrual blood stem cells do not have that capacity they stop division after a certain period of time, so there is almost no risk of unwanted modification that would turn them into cancer producing cells.



Embryonic Stem Cells



Menstrual Blood Stem Cells

Advantages:

Over embryonic stem cells:

Since, not all donor is compatible to the patient there are high chances that patient might die while waiting for the required donor to appear also this might harm the foetus in the extraction procedure as reported.

Over adult stem cell:

- Less willing donors
- As everyone is attached to the contents in their bone marrow while none to their unpregnant uterus.
- May lead to leukaemia.

Associated Frauds:

- There are some institutes and websites making a earning out of this.
- They claim to treat conditions without any basic theory.
- Also, the cells that are delivered are not up to mark i.e. almost degenerated.

Disavantages:

- Difficult to culture
- Costly
- If not done properly can lead to more dangerous condition
- Risky
- Skilled manpower required.

Conclusion:

Now the question is that, would you be a recipient of stem cells from menstrual blood? Can it be the next big thing? If it would save your life, I bet you would. Menstruation can now be used as a boon with skilled manpower and also get less annoying. It can add another dimension for treating our body malfunction and disorder. As, it is advantageous over other stem cells, it is the sought-after stem cells, this should be made cost effective in order to reach the mass public. And also, its power is not limited to this and yet to be UNLEASHED.

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के संका समस्या हो र ?

डा. प्रदिप पाण्डे
वरीष्ट मनोरोग विशेषज्ञ
मनमोहन मेमोरियल अस्पताल

मेरो नशा तथा मानसिक विभागमा एकजना अधबैशे व्यक्ति जँचाउनको लागी आउनुभयो । मैले वहाँलाई सोधे "किन आउनुभयो ?" वहाँले भन्नुभयो "मलाई एकदम डर लागी राखेको छ, ढुकढुक हुन्छ, पसिना आँउछ, मर्छु कि जस्तो लागी राखेको छ" मैले फेरी सोधे अरु के के हुन्छ ? बिरामीले बताउदै जानुभयो "येस्तै हो, कहिले मुटुकै समस्या भएर मर्छु कि जस्तो पनि लाग्छ कहिले छाती भारी भएजस्तो हुने, सास रोकिएजस्तो हुने हुन्छ । सुरुमा हप्तामा एकपल्ट जसो हुन्थ्यो अहिले त दिनहु जसो हुन्छ" । मैले वहाँको समस्या anxiety disorder को subtype panic disorder हुनुपर्छ भन्ने सोचेर diagnosis बनाए । वहाँको अवस्था एकदमै छटपटीमा भएकोले मैले तुरुन्त सन्चो हुने दबाई दिए र councelling को लागी शनिबार बोलाए र बिस्तारै सबैकुरा सुने ।

बिरामीले भने अनुसार वहाँले विवाह गरेको करिब १८ वर्ष भयो र अब वहाँको श्रीमतीले वहाँलाई divorce दिदै हुन्हुन्छ । मैले किन त भनेर सोधे । वहाँले भन्नुभयो, "मैले मेरो श्रीमतीलाई संका गर्थे अहिले आएर उसले छोड्छु भनेपछि धेरै डर लाग्यो र म हजुरकोमा आएको धेरै नै बिग्रन्छ कि भनेर" मैले वहाँलाई सोधे "हजुरले कहिले वहाँलाई अरुकेटा संग देख्नुभएको छ त ? जवाफमा भन्नुभयो "मैले छैन तर मलाई थाहा छ, म नभएको मौका पारेर केटाहरुसंग मस्कदै हिड्छे, अरुसंग सल्केकी छे ।" अनि मैले भने तेसो भए ठिकै त भयो नि, हजुरलाई माया पनि नगर्ने, अरुसंग सम्बन्ध छ भने divorceले के भयो त ? वहाँ एकछिन बोल्नुभएन र रुन थाल्नुभयो, म पनि रोकिए । वहाँले पछी आफै भन्नु भयो "मलाई श्रीमतीसंगै बस्नु छ, म उसलाई छोड्न सक्दिन" ।

त्यसपछि मैले वहाँलाई भने "त्यसो हो भने हजुरले आफ्नो श्रीमतीलाई म कहाँ लिएर आउनुपर्छ । हामी एउटा couple councelling को प्लान गरौ । बिरामीले भन्नुभयो "मेरो श्रीमती त divorce को कागजमा सहि गरेर माइत गई सकी, मेरो पनि सुन्दैनन् ।" मैले फेरी भने "यो तपाइको लागि अन्तिम मौका हो, जसरी पनि लिएर आउनुस, त्यसपछि म फेरी बोलाउँदिन । यति भनिसकेपछि बिरामीले प्रयास गर्छु भनेर जानुभयो ।

करिब एक सातामा दुबैजना आउनुभयो । आइसकेपछि मैले बिरामीको श्रीमतीसंग सोधे "किन divorce दिन लाग्नुभएको ?" श्रीमतीले रुदै भनिन "एक दिन होइन, दुई दिन होइन सधै संका गर्ने, होइन भनेपछि एक दुई दिन चुप लाग्ने अनि फेरी उस्तै, कति सहनु, कुनै केटासँग हासेर बोल्न नहुने, सधै मोबाइल, facebook, ड्रेस, purse हेर्ने, तिनै कुरा लिएर अरु पनि झगडा गर्ने, कति पटक त हातपात नै हाल्यो, के भन्नु, कसलाई भन्नु, म सम्झाएर थाके, कति सम्झाउनु ? १८ वर्ष भैइसक्यो मेरो अरु कोइ केटा साथी छैन भनेको ? म सक्दिन..... हजुरले भनेर मात्र म यहाँ आएको हो ? मलाई अब माया पनि छैन, म छोरीलाई माइतमा नै हुर्काउने सोचिसके ।"

त्यसपछि मैले बिरामीतिर हेरे वहाँ पनि लाचार देखिनुहुन्थ्यो, थाहा थिएन के भन्ने भनेर ? त्यसपछि वहाँले श्रीमतीतिर हेरेर "मलाई एकपल्टलाई माफी देउ, अबदेखी म यस्तो गर्दिन भन्नुभयो," तर श्रीमतीले मान्नुभएन । त्यसपछि मैले श्रीमानलाई विवाह अगाडिको सम्बन्धको बारेमा सोधे ।

बिरामीले भन्नुभयो "मेरो १२ कक्षामा एउटा केटीसंग माया बसेको थियो, अनि उसले मलाई भन्दै नभनिकन अर्को केटासंग सम्बन्ध बनाई । एकदिन म बाटोमा जाँदा उसलाई अर्कै केटा संग मस्की, मस्की हिडेको देखे त्यसपछी मलाई केटी भनेपछि विश्वास कम लाग्न थाल्यो र सधै संकामात्र लाग्छ, के गर्ने होला ?" मैले दुवैलाई राखेर सम्झए यो P.D.D. (Persistent Delusional Disorder) भन्ने मानसिक समस्या हो र उपचार गरेर यसबाट निस्कन सकिन्छ । मैले श्रीमतीजीलाई पनि श्रीमानलाई एउटा मौका दिन अनुरोध गरे र उपचार सुरु गरे । सुरुमा श्रीमतीले आनाकानी गर्नुभयो तर पछिको followup मा आउँदा बिरामीले भन्नुभयो "अहिले श्रीमती फर्केर घर आउनुभयो र हाम्रो सम्बन्ध राम्रो छ ।" यसरी १८ वर्षसम्म नबनेको सम्बन्ध उपचारले २-३ महिनामै राम्रो भयो र बिरामीको डर लाग्ने समस्या पनि हटेर गयो ।

यो समस्या Persistent Delusional Disorder हो र यसमा व्यक्ति भ्रममा पर्दछ कि उसले जे सोचेको छ त्यो कुरानै सत्य हो । घरपरिवारले बारम्बार भन्दा पनि उक्त व्यक्ति मान्न तयार हुदैन र उल्टै सम्झाउने व्यक्तिलाई मुर्ख या गलत थान्न पुग्दछ । यो समस्या P.D.D. को subtype delusion of infidelity अन्तर्गत पर्दछ ।

Daughter-in-law, Meat, Sponge, 70, Strawberry

BRAIN TEASER

1. I am a married woman. Rakesh's son is my daughter's father. What is my relation to Rakesh?

2. Mike is a butcher. He is 5'10" tall. What does he weigh?

3. What is full of holes but can still hold water?

4. Divide 30 by 1/2 and add 10. What is the answer?

5. What fruit has its seeds on the outside?

Lucky winner will Get Surprise Gift From TIME Pharmaceuticals

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MOMENTS IN TIME

Congratulations

Participating at SOL Conference, 2017

Launching of DINIR at SOL Conference, 2017

Participating at ONCO Conference, 2017

Participating at PAN Conference, 2017

Inaguration of TIME NRDA Cup

Winners of TIME NRDA Cup

Photo Session with TIME NRDA Cup Winners

Holi celebration at Factory

Defeat the encountered infections, all the ways

Dinir

Cefdinir 125mg & 250mg DT

1st Molecule in Nepal Introduced

हाम्रो नेपालको

for more details, please visit
www.timepharma.com

TIME

Inspired by Excellence...

TIME PHARMACEUTICALS

A WHO-GMP, ISO 9001:2008 & ISO 14001:2004 Certified Company

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