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Effect Of Low Count Of Leucotyes In The Rural People

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Abstract:
Blood is a liquid connective tissue useful to transport the inter cellular substances called as plasma human blood is circulated through the blood vessels. There are two main components of the blood these are blood copuscles and blood plasma. The plasma contains the important inorganic and organic substances which are useful for body the blood cells present in plasma are erythrocytes , Leucocytes, and thrombocytes. All these cells carry the important functions of the body like the exchange of gases by erythrocytes ,the leucotyes helps in phagocytosis and thrombocytes helps in co-agulation of blood . the number of each type of blood cells is different in human beings and in normal person the complete blood count is specific where as in abnormal person the blood count is increases or decreases. Abnormal increases in blood cells causes many diseases in human beings as well as decreases in count of blood cells also causes diseases in human when number of leucocytes are increases above the normal level then it causes the Leucocytosis and when number of leucocytes are decreases below the normal level it causes leucopenia. The lycopene is harmful as it decreases the ability of the body to fight against the infection and decreases the immune system of the body. In present study attempts has been made to study of lycopene cases and their symptoms among the rural area of shivoor.

1.Introduction

Blood is a liquid connective tissue which is useful as the transporting system of the body .Blood consists of free cells and a fluid intercellular substance called as plasma in man's blood is circulated through a definite channel like vessels , arteries, veins and capillaries. There are two components of blood like liquid components and corpuscle components. The plasma is a liquid components of blood as it is composed of 91 to 92 % of water and it also consists proteins like globulins, albumins , fibrinonogen, prothrombin ect. As well as some inorganic constituents like sodium , potassium, calcium, magnesium and phosphropus, are also present in plasma , plasma also contains organic constituents such as proteins nitrogenous substances, fats , phospholipids, cholesterol and cholesterids, carbohydrates, glucose, fructose, galactose, hormones and antibodies and enzymes ect. Some amount of bilirubin ,carotene and xanthophyllin is also present in the plasma the plasma constitutes about 55 % of the total blood, R. nagabhusham, kodarkar m. s. and sarojini R. (1988), the blood corpuscles are remain floating in the . There are three types of blood corpuscles present in blood like Erythrocytes, leukocytes, and Thrombocytes. The erythrocytes are oval,biconcave in structure present in blood. In adult male the number of erythrocytes about 5. O millions per cubic millimetre of blood , whereas it is about 4.5 millions per cubic millimetre in adult female these erythrocytes are specialized cells for transport of respiratory gases like oxygen and carbon DI oxide. Thrombocytes are minute colourless non nucleated and specially play role in clotting of blood the leucotyes are amoeboid cells with prominent nucleus and also called as white blood cells , it is about 8000 per cubic millimeter of blood R.nagabhushanam, kodarkar m. s. and sorojini.R. (1988). The number of white blood cells may varies from 4500 to 10000 per cubic millimeter these are specially made for phagocytosis hence also called as sol iders of body the increase in number of leucocytes in blood causes leucocytosis where as decreases in number of white blood cells causes Leukopenia a harm ful disease which decreases the ability of body to fight against diseases and infections. Now a days the leucopenia is the major problem in rural area , the attempt has been made to study the different cases of leucopenia among the people of rural area of shivoor during sixth months of period between June 2012 to November 2012.

2.Materials And Methods

For the study of various cases of the effect of low leucotyes count from the rural area shivoor author visited to different pathology laboratory and local medical practitioners and data is collected from both these places, from the pathology laboratory different tests are regularly taking place by fully autohaemology cell counter technique. The various tests of haemoglobin , Red blood cell count ,

packed cell volume , total white blood cell count, platelet count, test of peripheral smear , blood group testing, Rh factor test,ect. Among these test authors concentrates on total WBC count and trying to show the different effect of low wbc count on human beings. These cases are observed in pathology laboratory and local medical practitioners during the study period of six months.

3.Result And Discussion

Blood is a liquid connective tissue consists blood corpuscles and plasma the blood corpuscles present in blood are of three types i.e. Erythrocytes ,leucocytes, and thrombocytes.Merck (2012), Among these leucocytes are the important for develop the immune system of body. The leucocytes are also called as white blood cells as they are colourless leucocytes are amoeboid cells with the prominent nucleus and without the haemoglobin. Leucocytes show the amoeboid movements hence they are able to pass through blood vessels, these are less than erythrocytes in blood the total number of wbcs. Present in human is about 4500 to 10,000 thousand per cubic millimeter of blood in normal human beings, the normal values of wbcs.are different in adult males and females where as in newly born child the leucocytes are high in number i.e. 9000to 30,000 in number and their number is decreases in elder and in adults leucocytes are produced in the bone marrow however the types of leucocytes like the lymphocytes are also produced in the lymphoid tissue, thymus and spleen. Particularly wbcs are produced in bone marrow from the special cells called as the haematopoietic stem cells.Franklin (2013)., The leucocytes are of two types granulocytes and agranulocytes, these types are depends on the presences or absences of granules. The leucocytes are with granules in cytoplasm then these are termed as granulocytes these granulocytes again have three types neutrophils, basophils, and esinophils .these three types are named according to their staining properties and also have the different shapes of nucleus among these esinophils are helps during parasitic infection. Basophils respond to allergic conditions by releasing histamine and neutrophils helps to defend body aginst bacterial or fungal infection. The granulocytes are the cells without granules in cytoplasm and these cells include lymphocytes and monocytes lymphocytes are common in the lymphatic system and without nonglobular nuclei they useful to produce antibodies they co-ordinate the immune response. and get kills the cells which are viral or cancer infected. Monocytes are helps in phagocytosis and save the function of neutrophils these cells present pieces of pathogens to T cells. So that the pathogens may be recognizes again and killed. Hence all these leucocytes are very important in blood and their number is normally maintainted in blood stream.if the count of leucocytes are higher than normal it causes the leucocytosis and if the number of leucocytes is reduced than normal level then a condition is termed as leucopenia. Mayo(2010)., In leucopenia white blood cells decreases in their number Which causes risk of infection.

4.Causes Of Leucopenia

Neutropenia is mostly common indicator of leucopenia disorders. because low count of neutropenia causes the risk of infection, the other major causes are anemia ,menorrhagia ,infection of HIV, nutritional deficiency, failure of bone marrow , metrorhagia, malaria, liver diseases,neurasthenia,thrombocytopenia Arnold.D.m.(2012)., Aster R. H.(2007)., deficiency of vitamin, Rheumatoid arthritis , stimatitis,pneumonia infection,ulcers, chemotherapy, radiotherapy, spleen diseases fatigue,craving ect. are the major causes of the leucopenia.

During study period about 10 cases of males and 10 cases of females are observed by the author from the local practioners or pathology laboratory in every months from June 12 to November 12.of six months of period. among these observations 20 cases are observed in every months out of which in month of June 12 among the 10 cases of female four cases have the less count of leucocytes and anong these one female is anemic patients and show decrease in red blood cells in blood and also show low level of haemoglobin in blood.Fishman (2003)., another female show the symptoms of stomatitis which suffering from the inflammation of mucuous lining of the structures in mouth ,cheeks, gums,tongue and lips the third female show the infection of malaria the identification of malaria is due to presences of high population of mosquitoes. Fourth femqale shows frequents symptoms of fever,headache,and fatigue .during the month of June 12, 10 cases of males are observed and among these 10 cases three cases show the low count of leucocytes among these three in first case infection of the malaria are observed as the patients show fever fatigue,headache,anemia and low level of haemoglobin which show the symptoms of thrombocytopenia which is a blood disease in which blood platelets are decrease in number than normal level NHLBI (2012)., and third case show the symptoms of stomatitis.

During the month of July 12, three cases of female among 10 are show the low leucocytes count in which one female show the symptoms of malaria and in second case symptoms of anemia are found where as third case show the symptoms of stomatitis.in male 10 cases are observed in month of July among these only one case of male show low leucocytes count and other nine are showing normal wbc. Count in these one case the symptoms of neurasthenia are observed as patients show the fastigue, headache, and also disturbed the emotional balance.

During months of august 12 among 10 females four cases of female show the low count of leucocytes among these one of female show the symptoms of stomatitis and one female show the symptoms of oral ulcers and viral infections where as in two female symptoms of malaria are observed which is due to increases in the mosquitoes in which female anopheles transmits the species of malaria plasmodium falciparum.welch (1897) during these period population of mosquitoes is found high because august period is the breeding period of mosquitoes in which population of mosquitoes are increases chinery W. A.(1984). During august 10 cases of males are observed among these four cases show the low wbc. Count out of which two cases show the common symptoms of anemia in which level of haemoglobin is low .one patients is suffering from the malaria and one patients show the symptoms of pneumonia.

During the month of September 12 , 10 cases of female are observed out of which three female are identified as low wbc. Count among these two female have the common symptoms of stomatitis infection and one female is suffering from from fatigue, headache, fever,and oral ulcer also. During months of September 10 males are also observed among these four male are identified as a low wbc.

Count out of which two males are suffering from viral infection and oral ulcers. The pneumonia is identified in one patients and one show the symptoms of malaria.

In the month of October out of 10 females only two female are identified as low wbc. Count among these two female in one female neurasthemia is identified where as another female shows the symptoms of menorrhagia, among 10 males which are observed during month of octomber only one male identified as the low wbc. Count and are show the symptoms of infection of ulcers and during month of November out ten female three females are show the low leucocytes counts among these one female suffering from fatique ,headache,fever,and oral ulcer. One show the symptoms of viral infection where as other female show the symptoms of anaemia. Ten males which are observed during month of November only two males show the low count of wbc.among these two one male show the symptoms of anemia and other show the symptoms of stomatitis.

During the study period of six months 120 cases are observed out of which 60 cases aer of female and 60 cases are of males.among the 60 cases of female total 19 female show the low wbc. Count out of these 19 cases infection of malaria is identified in four female three female suffering from anemia ,total five female show the symptoms of stomatitis , the symptoms of neurasthemia are present in only one female one female show the symptoms of menorrhagia ,among four female two female shows the oral ulcer and fatigue, fever and headache where as all the four female show the common symptoms of viral infection ,fatigue,fever and headache.one female only show the symptoms of oral ulcer.

Among 120 cases 60 cases of males are observed out of these 60 males 15 cases of males are identified for various infections.among these in three males infection of malaria are observed three males shows the symptoms of anemia two males show the symptoms of stomatitis and the thrombocytopenia Aokit (2012)., Observed in one male where as there is one case of the neurasthenia are also identified. Two males are suffering from pneumonia , viral infection , headache, fever, fatigue symptoms is observed only one male with the oral ulcers also and only one male shows the oral ulcer separately.

Total 120 cases are observed during the study period of six months among these 120 cases total 34 with two cases are common for fatigue and oral ulcer., Cases of male and female show the low counts of wbc. Their count comes below than 4000 cells percubic microliter of blood hence in these males and females immune system is weak and their body is susceptible to various diseases.

5.Conclusion

During the study period total eight cases of the malaria are identified because of the high population of the mosquitoes. The population of mosquitoes is high due to the presences of stagnant water which stored in tanks, tyres, tubes, containers. Which increases the chances of breeding of mosquitoes. Six cases of anaemic patients are identified due to the decrease in erythrocytes. and haemoglobin level of patients . in these patients deficiencies of iron and vitamin B12 Bender D. A. (2013)., are also present which also causes the anemia Clark (2008)., the deficiency of iron Sharma D.C. (1995)., and haemoglobin is due to low use of green vegetables in diet vitamin deficiency Smith A.D. (2012)., is due to lack of nonveg. In the diet the seven cases of stomatitis are identified during the study period and they show the inflammation of mucus lining of mouth ,cheeks,gums,teeth,lips are due to the deficiency of folic acid,vitamin B12 Simij (2010)., and iron in the body five cases of the viral infections ,headache,fever,fatigue with one common in oral ulcer and five cases of oral ulcers are found among the patients are due to improper sanitation around the houses. Deficiencies of vitamin in the body of these patients are increasing the susceptibility to the infection. As the improper sanitation,unhygienic conditions,storage of stagnents water around the houses favours the developments of bacteria and viruses which develops the infection like pneumonia neurasthenia also. To avoid the spreading of these diseases one should take a balanced diet and keep the surrounding clean.

Month	Malaria	Anemia	Stomatitis	Thrombocytopenia	Neurasthenia	Menorrhagia	Pneumonia	Ftigue And Headach, fever.	Oral ulcer
June	F-1 M1	F1	F-1 M-1	M-1				F-1	
July	F-2	F-1	F-1		M-1				
Aug.	F-2 M-1	M-2	F-1				M-1		F-1
Sept.	M-1		F-2				M-1	F-1 M-1	F-1 M-1
Oct.					F-1	F-1			M-1
Nov.		F-1 M-1	M-1					F-1	F-1

Table 1: No. Of Cases Of Infection During Study Period

Sr. No.	Total WBC count in Male in month of June	Total WBC count in Female in Month of June
1	10000	7100
2	9300	3500
3	6200	14200
4	6500	16200
5	3500	5700
6	3400	9800
7	3700	5700
8	6400	3300
9	6700	3900
10	10500	3400

Table 2

Sr. No.	Total WBC count in Male in July	Total WBC count in Female in July
1	11200	9900
2	17800	3900
3	9300	2200
4	12900	14300
5	8500	9000
6	10700	15800
7	3500	8500
8	7700	3800
9	9900	7200
10	7800	5400

Table 3

Sr. No.	Total WBC count in Male in August	Total WBC count in Female in August
1	6800	5700
2	3900	10800
3	7500	3800
4	8200	3300
5	7100	3500
6	17000	10000
7	9500	5300
8	3400	6600
9	3000	12000
10	3500	3200

Table 4

Sr. No.	Total WBC count in Male in Sept.	Total WBC count in Female in Sept.
1	3300	16200
2	11800	16000
3	10600	5600
4	26000	8700
5	3500	9800
6	20100	10100
7	6700	3700
8	3100	5700
9	17000	3200
10	3400	2000

Table 5

Sr. No.	Total WBC count in Male in Oct.	Total WBC count in Female in Oct.
1	7400	3900
2	8700	3500
3	19500	6200
4	20300	8200
5	10700	11700
6	8400	7000
7	8600	5000
8	7300	6000
9	8500	7700
10	3000	5200

Table 6

Sr. No.	Total WBC count in Male In Nov.	Total WBC count in Female in Nov.
1	2000	3400
2	8500	3400
3	2000	4000
4	6700	9200
5	8400	2900
6	6200	9500
7	8300	6300
8	9500	7400
9	4600	6700
10	8400	7300

Table 7

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