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A CLINICAL STUDY OF COLONOSCOPIC FINDINGS ON POSITIVE FAECAL OCCULT BLOOD TEST

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ABSTRACT

Background and objectives
Colorectal cancer is the third most common cancer in the world and a leading cause of cancer death in the Western world. The life time risk of colorectal carcinoma was 6%-7%, incidence rate increases after the age of 50. Datas from rural population based registries, shows incidence rate of colon cancer was very low in rural setting but incidence rate was disproportionately more in rural India . The present study is done in faecal occult positive patients & who are willing for colonoscopy. The patients who are willing for colonoscopy are subjected for the procedure and the results are evaluated.

Methods Patients admitted in various surgical units in Thanjavur medical college hospital between January 2013 to July 2014 with positive faecal occult blood & age >50yrs constitute the materials of this study. The exclusion criteria includes patients with complaints of bleeding PR, altered bowel habits , tenesmus , mucus discharge from PR, spurious diarrhea ,mass desending PR ,FOBT within last one year, sigmoidoscopy within last 3 to 5 years, colonoscopy within last 10 years.

Results Out of 200 patients 52 had positive occult blood test, they are subjected to colonoscopy. In our study 17 patients had positive findings , colorectal cancer -1, polyp -1, haemorrhoids -5, diverticulitis-1, acid peptic diseases-9.

Conclusion Faecal occult blood test screening offers no benefit without appropriate follow up diagnostic tests and treatment. Colonoscopy is more superior to all other screening tests in colorectal cancer screening. Colonoscopy offers both diagnostic and therapeutic options. In India, where there is scarcity of resources, in order to have population impact FOBT is the most affordable test.

KEYWORDS : positive occult blood test, colonoscopy, screening.

INTRODUCTION

Colorectal cancer is the third most common cancer in the world and a leading cause of cancer death in the Western world. The life time risk of colorectal carcinoma was 6%-7%, incidence rate increases after the age of 50. .In India incidence rate in male-4.3/1,00,000 and female-3.4/1,00,000 ,Highest in korea-male-46/100000,female-25/100000.Datas from rural population based registries, shows incidence rate of colon cancer was very low in rural setting but incidence rate was disproportionately more in rural India. Colorectal carcinogenesis is exceptionally suited for screening, since the adenoma–carcinoma sequence used in detection and removal of pre-cancerous lesions, and it is well established that patients who are maintained free of polypoidal adenoma by endoscopic polypectomy are generally kept cancer free.

There is an increase in incidence of colorectal carcinoma in India due to,

- Economic shift from low income to middle income economy
- Life style and dietary factors,
- Increased use of screening modalities.

AIM OF STUDY

1. To study colonoscopic findings in positive faecal occult blood test patients
2. To study effectiveness of faecal occult blood test in colorectal carcinoma screening
3. To study factors that affect low uptake of faecal occult blood test

MATERIALS AND METHODS:

Patients admitted in various surgical units in thanjavur medical college hospital between January 2013 to July 2014 constitute the materials of this study. Patients admitted with complaints of abdominal pain , dyspepsia and other non specific compliants not related to colorectal symptoms were included in this study. The exclusion criteria includes patients with complaints of bleeding PR, altered bowel habits , tenesmus , mucus discharge from PR, spurious diarrhea, mass desending PR ,FOBT within last one year, sigmoidoscopy within last 3 to 5 years, colonoscopy within last 10 years. The inclusion criteria includes patients with age of 50 and above, patients willing for further followup (invasive procedures like colonoscopy&UGI scopy).

FOBT in Thanjavur medical college:

Benzidine hydrochloride , barium peroxide , 5 ml of glacial acetic acid all these mixed in test tube. A clean glass stick dipped in faecal matter is smeared in white paper a little benzidine solution poured over that white paper.Deep blue colour within 15 sec indicates strong positive, Greenish blue within 30 sec indicate weakly positive, No colour within 30 sec indicates negative test.

All patients subjected to basic blood,urine and biochemical evaluation including liver function tests ,USG abdomen ,UGI scopy and CT abdomen in selected cases.General condition of the patient is evaluated , presense of features like anaemia, lymphadenopathy, pallor, jaundice are noted.Examination of cardiovascular, respirato ry and skeletal system was done. Thorough examination of abdomen (looking for abdominal pain, any mass per abdomen , distention , ascites) was done. Per rectal examination was done in all cases.A total of 200 patients were studied, patients with positive faecal occult blood test are included in this study, those who are negative for FOBT were adviced for follow up, one year later for another FOBT test.

RESULTS

In our study 200 cases were studied out of which 52 cases had positive occult blood test, all these cases were subjected to colonoscopic examination. Distribution of cases were depicted in Table no:1. Here in our study 40 cases were male & 12 cases were females, of which 40 cases came for regular follow up rest of the cases were irregular. In our study 9 patients had positive colonoscopic findings rest of them were normal as shown in Table no:2

1. AGE DISTRIBUTION OF FOBT POSITIVITY

AGE IN YEARS	50-60	60-70	70-80
NO OF PATIENTS	42	7	3

2.NUMBER OF PATIENTS WITH POSITIVE COLONOSCOPY

NO OF PATIENTS	POSITIVE COLONOSCOPY	NEGATIVE COLONOSCOPY
40	9	31

2. CAUSES OF FOBT POSITIVITY

Colonoscopic examination was done in 40 patients, in our study 9 patients had positive findings one had colorectal cancer, one of polyp, one case of diverticulam and five cases of haemorrhoids depicted in Fig no [1]

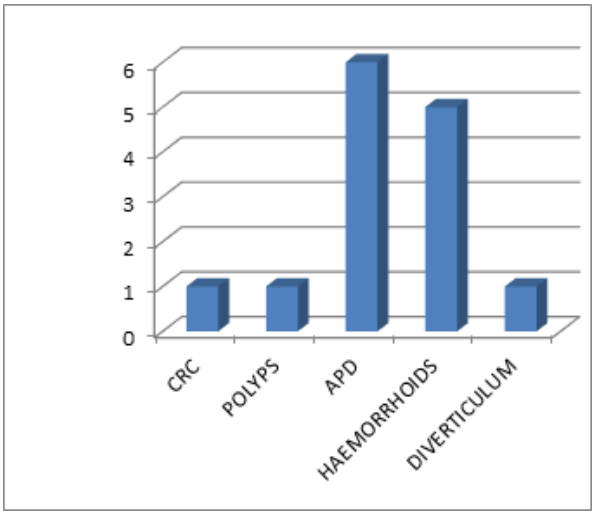

Fig no : 1. Colonoscopic findings

DISCUSSION

All colorectal tumours pass through a long detectable precancerous phase as a polyp in bowel lumen . By early detection and removal of polyp these type of cancers are easily prevented. Even though carcinomas are detected in established early stage it has a better prognosis than its detection in the later stage of tumour progression. These features make colorectal carcinoma as an ideal disease for screening. A lot of screening tests are available for colorectal cancer ranging from low cost and moderately effective occult blood tests to highly expensive and more effective colonoscopy. Four major randomized control trials clearly shows there was an overall reduction in mortality(26%) by faecal occult blood test (mandel et al ,hard castle et.al, kewenter et.al, kronborg et al)[1,2]. Greegor et al [3] first reported the effectiveness of faecal occult blood test by detecting asymptomatic colorectal cancer patients by using guaiac impregnated test cards.Though many different chemicals are used to detect faecal blood the guaiac test, haemoccult-ii continue to be one of the most commonly recommended tests because of high specificity , low cost and simplicity. This test is done for three consecutive bowel movements & done by taking stool samples from different sites using some applicator stick and smeared into two windows in one slide. FOBT based on colour change is mainly due to pseudoperoxidase activity of haemoglobin. Positive test doesn't tell about the amount of blood being lost, so this test was not specific for tumours because non cancerous lesions such as gum bleeding, gastric ulcer, peptic ulcer disease and haemorrhoids will also give positive result because bleeding will also be present in these conditions.

The test is not specific for blood itself because other substances with peroxidase and pseudoperoxidase activity (meat , some fruits, vegetables bacteria) also give false positive result. If these substances are present in stool sample, because of these drawbacks screening subjects are adviced to follow diet restriction before going to test. Some substances block pseudoperoxidase activity and give false positive results (ascorbicacid)[4]. Positive test may revert to negative if the slides are stored in lab for more than few days prior to screening. Rehydration of test slides by adding patients with positive screening results must undergo definitive diagnostic evaluation by double contrast barium enema with or without flexible sigmoidoscope and colonoscopy.

INFLUENCEOF DIET IN FOBT

Experiments in food stuffs indicates uncooked and untreated vegetable or animal tissue gives a positive result which was reduced or nullified by cooking. beef and mutton are exceptions. In fish kingdom sardines and salmon retain their positivity even after cooking. In our study, 20% of the study population was found to be vegetarians. So, the dietary predisposition toward non-vegetarian diet seems to be the contributory factor towards the incidence of colorectal carcinoma and thus subsequently FOBT positivity.

ADHERENCE TO SCREENING

The advantage of screening occurs only if eligible population are accurately screened .But problems with screening adherence is mainly due to low income, un education and unawareness of population .Recent study shows people may adhere more with faecal test than colonoscopy[5]. In our study, only 77 percentages of people who were found to be having FOBT positivity attended futher colonoscopic evaluation.

SENSITIVITY :

Bleeding from CRC will not be present in all cases of CRC , this explains the low sensitivity of FOBT in CRC screening.The actual sensitivity will not be more than 55% , even though the sensitivity for polyp is much Lower than carcinoma But FOBT undoubtedly detects some polyps, explaining the long term follow up period and annual testing for reduction in mortality of CRC.

SPECIFICITY:

Specificity of this test is around 95% , but FOBT is used as a screening procedure for the general population-say persons above 50 years- the positive predictive value of less than 6-10 %. In our study, patients with negative FOBT are not subjected to colonoscopy, so it was not possible to calculate sensitivity (false positive) and specificity (true negative)

CAUSES OF FOBT POSITIVITY:

In our study, only 9 patients had treatable diseases among those with FOBT positivity[6] Of them, 6 had haemorrhoids, 1 had a polyp and a carcinoma each and one other patient had diverticulum. Eventhough the numbers are statistically negligible, the interventions done in these patients in the form of polypectomy and haemorrhoidectomy according to the associated pathologies helped in improving the quality of the precious life of those patients.

A special mention has to be made about the patient who was identified to have the carcinoma[1] The disease was diagnosed at an earlier stage in this patient and the patient subsequently underwent curative surgery. Thus even as the number is statistically insignificant, our screening with FOBT has helped in saving the life of that patient.

CONCLUSION:

Faecal occult blood test screening offers no benefit without appropriate follow up diagnostic tests and treatment.Single occult blood test examination has no clinical significance in colorectal cancer screening.Colonoscopy is more superior to all other

screening tests in colorectal cancer screening.Colonoscopy offers both diagnostic and therapeutic options.It is simple, safe and cost effective but is limited by lack of acceptability, compliance and adherence as well as poor sensitivity and specificity.In India, where there is scarcity of resources, in order to have population impact FOBT is the most affordable test.In considering all the advantages and drawbacks of FOBT in colorectal cancer screening, we can conclude that this examination is certainly better than no testing at all.

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