

Hi!

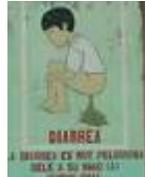
So finally rains have brought the scorching summer to an end. Surroundings have become lush green. Days are perfect for taking young and old for a picnic, if only demands of a private practice would allow us...
Coming back to reality... and the world of medicine.



Here are few things that I thought worth discussing here – a) Value of stool examination in patients with diarrhea. B) Importance of Pretest & post test HIV Counseling c) Peripheral blood based PCR in diagnosis of pulmonary tuberculosis. d) C-Reactive Protein in Lymphocytic Pleural Effusions

Value of stool examination in patients with diarrhea.

DOCTORS sending in patients for stool examination with great expectation, and path guy not finding anything worth mentioning can be quite frustrating and embarrassing. So I tried to find the experience of other workers in this area. I found that Stool examination is most useful in establishing a



diagnosis of dysentery and in helping to distinguishing patients infected with Shigella and Ent histolytica; it is of limited value in discriminating between pathogens causing watery diarrhea. Couple of more articles stressed the **importance of occult blood** in differentiating invasive and non-invasive diarrhea. Details on page 2

Importance of Pretest & post test HIV Counseling

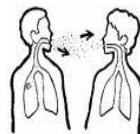
I DO NOT know whether pre-test counseling is being done before referring a patient for HIV testing. I hope it is done. Doctor-Patient communication is much talked about & I think even in our busy schedule we need to take time to explain what is being done to patient. A case in point is pre-test HIV counseling - if the patient is not explained the possibility of



negative test during 'window period', it leaves an opportunity for patient to level charges against us, if the patient seroconverts later on. Here is a flow chart from WHO, that can help us take decision (page 3). There are many papers studying effectiveness of counseling in making patients take these tests, but none regarding how commonly counseling is done in India.

Peripheral blood based PCR in diagnosis of pulmonary tuberculosis.

IT IS unfortunate that, Koch's being a problem of public health importance; we don't have a test that is able to pick *all* the cases (highly sensitive & specific). So sometimes we have to resort to tests like PCR, and when the sample from site of infection



is not easily available, we have to do this test on blood. But is it good enough? I am afraid the answer is NO. This study from Rawalpindi found that this test has low sensitivity, so negative test does not rule out the disease. Check the rest on **page 4**.

C-Reactive Protein in Lymphocytic Pleural Effusions: A Diagnostic Aid in Tuberculous Pleuritis

TIME AND again test already in vogue for some thing, is found useful for some thing new. These guys from Spain found that CRP pleural fluid level determination is **useful** in the diagnostic workup of lymphocytic pleural effusions.



High CRP levels are very suggestive of tuberculous pleuritis, and low CRP levels make this diagnosis unlikely. Needless to say it would be interesting check whether that holds true in India. If you think this looks remarkable let's check this out. **Details on Page 5**

Also in this issue

A FEATURE on "Medical Podcasts" - page 2, 'Web Links To Interesting Cases' - page 3, 'Bollywood humour' - page 4 and 'Parting Thought' by Jack London on last page.



So this is it for this month, enjoy the season.
Bye!



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Issues since Jan, 2005 available online –
<http://sachinkale1.tripod.com>

Leave your **comments & r** check others at –
<http://sachinkale1.tripod.com/comments.htm>
(1, Cont.)

The closer look at health...

A humble effort towards understanding medical science & becoming a deserving member of robust, science based medical community.

BMJ 1983; 286; 25 June

Value of stool examination in patients with diarrhoea



Findings of stool examinations in 1593 patients with diarrhoea due to a single enteric pathogen—enterotoxigenic Escherichia coli rotavirus, Shigella, Campylobacter jejuni, Vibrio cholerae 0:1, Entamoeba histolytica, or Giardia lamblia—were reviewed to determine how well they predicted the agent associated with the diarrhoea. Specimens were examined visually for blood and mucus, tested for pH, and examined under a microscope for the presence of red and white blood cells, parasites, and stool fat. Although visible blood was more common in specimens from patients infected with Shigella (51%) and Ent histolytica (39%) than in those from patients infected with other agents (6%; $p < 0.01$), patients infected with Shigella were most likely to have numerous faecal leucocytes (> 50 /high power field: 39% v 8% of all patients and 7% of patients infected with Ent histolytica, $p < 0.01$ in both cases). Patients infected with enterotoxigenic E coli, rotavirus, V cholerae 0:1, or C jejuni had loose stools with fewer red or white cells. Patients infected with rotavirus and C jejuni were more likely to have acid stools with 3 to 4+ fat, but these findings were related to young age and breast feeding.

Stool examination is most useful in establishing a diagnosis of dysentery and in helping to distinguish between patients infected with Shigella and Ent histolytica; it is of limited usefulness in discriminating between pathogens causing watery diarrhoea.



Website Watch: Some useful medical podcasts

Last time we discussed the smart phones in medicine, this time let us see some useful podcasts, which can be downloaded and played on our MP3 enabled phones/PDAs.

Podcast as we know is an audio summary of a website. And these days when we are hard-pressed for time, it is good idea to use audio medium for keeping up with our favorite journals. These podcasts can be listened to while driving, taking a walk, jogging or while working on the treadmill. If you are convinced of its utility, check this out –

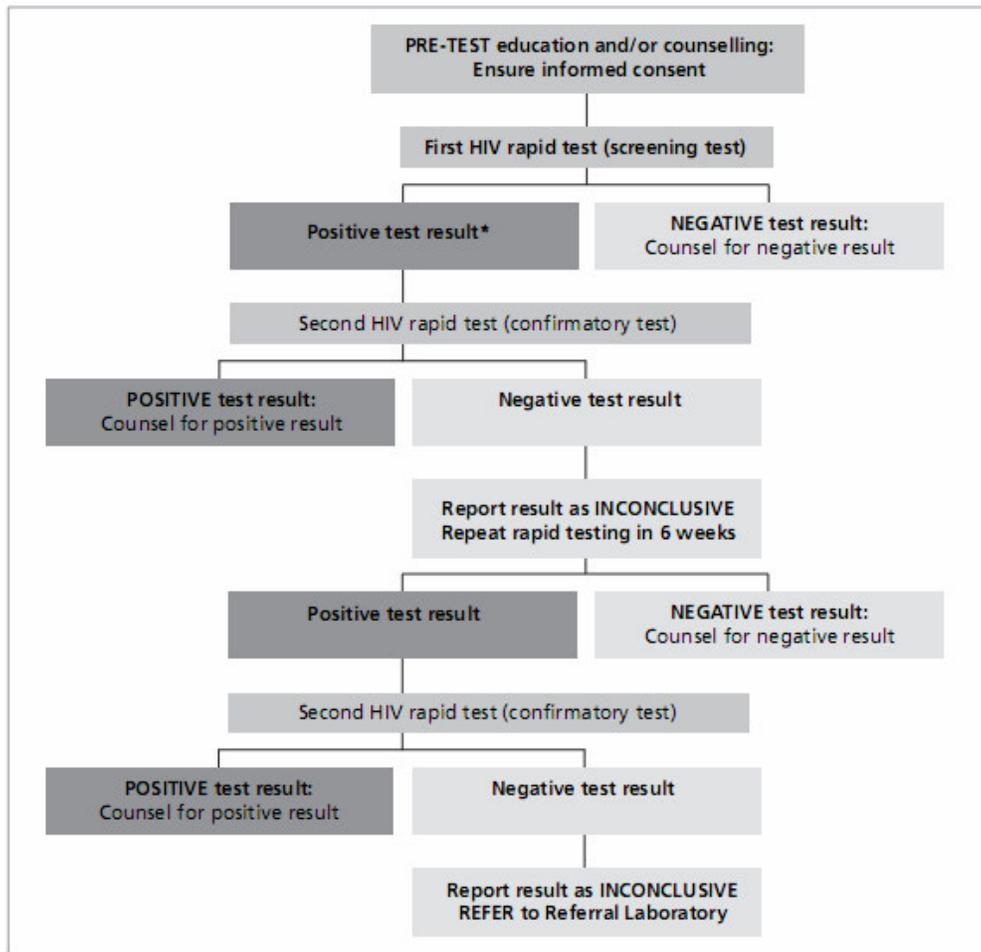
- ❖ The Lancet
<http://www.thelancet.com/audio>
- ❖ The BMJ
<http://www.bmj.com/audio/>
- ❖ NEJM
www.nejm.org

- ❖ Johns Hopkins Podcasts
<http://www.hopkinsmedicine.org/>
- ❖ Society for Critical Care Medicine
<http://www.sccm.org/SCCM/Publications/iCritical+Care/>
- ❖ If you can not find what you are seeking –
<http://www.mymedicalpodcasts.net/>

(2, Cont.)

Flow chart for HIV testing

www.emro.who.int/aiecf/web28.pdf



Editorial Note: This WHO document is packed with useful stuff, worth your while to go through it.



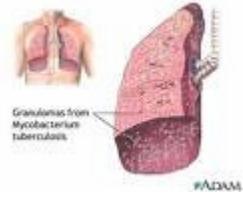
Web links to Interesting Cases

A mix of cases from my lab facility; photographs of which might prove interesting to you -

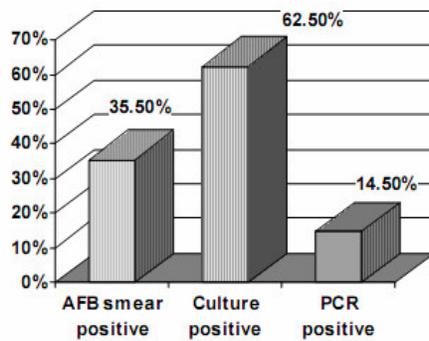
1. Tubal ectopic gross picture, worth a look - <http://flickr.com/photos/sachinkale/787224856/>
2. Text book picture of Simple (cystic) hyperplasia of endometrium <http://telemet.ipath.ch/ipath/object/view/134795>
3. Gross picture of mastectomy specimen shows adenocarcinoma <http://flickr.com/photos/sachinkale/767194692/>
4. G. lamblia cysts <http://flickr.com/photos/sachinkale/786406987/> & hookworm egg <http://flickr.com/photos/sachinkale/786408765/>
5. Two hysterectomy specimens showing carcinoma cervix <http://flickr.com/photos/sachinkale/787229658/> & <http://flickr.com/photos/sachinkale/787250726/>
6. Follicular adenoma with liquefactive change <http://flickr.com/photos/sachinkale/787222856/>

(3, Cont.)

Peripheral Blood-Based Polymerase Chain Reaction In Diagnosis Of Pulmonary Tuberculosis



- ⌘ The rapid diagnosis of infectious diseases, particularly those that represent a public health problem, like tuberculosis, is a challenging problem. By using nucleic acid amplification techniques like PCR, one may be able to diagnose, the disease on the day of arrival of specimen in the laboratory.
- ⌘ For diagnosis of tuberculosis by direct methods like PCR, specimens from site of infection are required.
- ⌘ In certain cases it is difficult to get the specimens from site of infection and in such situations; some researchers have tried to detect the DNA of Myco. tuberculosis complex from blood of these patients.
- ⌘ The purposive of this study is to determine the diagnostic efficacy of peripheral blood-based polymerase chain reaction for diagnosis of pulm tuberculosis.



- ⌘ **Methods.** This was a simple descriptive study, carried out in Department of Microbiology, Armed Forces Institute of Pathology, Rawalpindi from Jan 2004 to Dec 2004.
- ⌘ Sputum and blood samples were collected from 96 suspected patients of pulmonary tuberculosis.
- ⌘ Sputum samples processed for ZN staining and AFB culture (gold standard) and blood samples processed for PCR.

- ⌘ **Results.** Out of 96 cases, 60 (62.5%) were culture positive. PCR was positive in 14 (14.5%). AFB smear positive were 34 (35.4%).
- ⌘ The overall sensitivity and specificity of the PCR assay was 20% and 94.4% respectively and the positive and negative predictive values were 85.71% and 41.46% respectively. The overall efficiency of the test was 47.91%.

Conclusion. Due to low sensitivity; a negative PCR assay does not rule the disease. However, this test may be helpful in cases where specimens from the site of infection are not available.

Bollywood Humor: Munnabhai in clinic

- ☺ Munna: Teray ko maaloom hai k cigarette aik tarah say slow poison ka kaam karta hai.
Patient: To mujhay konsa marnay ki jaldi hai.
- ☺ Chinkie: Tum hamaisha clinic mien apnay saath meri photo bhi kyun le jaatay ho.
Munna: Apun ko jab bhi koi mushkil aati hai, apun tumhari pic dekh leta hoon aur woh prob. solve ho jaati hai.
Chinkie: Dekha! Mien tumharay liye kitni achi aur powerful hoon.
Munna: Haan! Apun teri pic dekhta hai aur apnay aap say bolta hai "Is say bari bhi koi problem ho sakti hai bhala."

- ☺ Munna: Bolay to darad kahan hai aapko.
Patient (F): Pooray badan mien hai
Munna: Yeh kaisay ho sakta hai ray, kuch detail batao.
Patient: Tocuhes her right knee and says here, then touches her earlobe and says here, then touches her left cheek and says here, etc.
Munna: Aesay hi khaali peeli tension de reli hai, teri finger mien dard hai.

(From: www.indiabook.com)



(4, Cont.)

C-Reactive Protein in Lymphocytic Pleural Effusions: A Diagnostic Aid in Tuberculous Pleuritis



- ⌘ C-reactive protein (CRP) pleural fluid levels have been found to be higher in tuberculosis and parapneumonic effusions than in other causes of pleural effusion.
- ⌘ *Objective:* The aim of this study was to analyze whether CRP (a simple and inexpensive test) may be a diagnostic aid for tuberculosis in lymphocytic pleural effusions.
- ⌘ *Methods:* One hundred and forty-four patients with a lymphocytic pleural effusion (more than 50% lymphocytes in the differential white blood cell count) were included. The patients were 93 men (65%) and 51 women (35%), aged 64 ± 18 years (mean \pm SD).
- ⌘ The diagnoses were as follows: tuberculosis, 20; pleural effusion associated with malignancy, 69; transudates, 38; other benign exudates, 17.
- ⌘ *Results:* The CRP pleural fluid level was higher in tuberculous pleuritis (54 ± 24 mg/l) than in lymphocytic effusions of other origin (21 ± 16 mg/l; $p < 0.001$). High CRP levels (≥ 50 mg/l) have a high specificity for tuberculosis (95%), and low levels (< 30 mg/l) have a high sensitivity (95%) for excluding disease.

Diagnoses	C-reactive protein, mg/l
Nontuberculous pleural effusion (n = 124)	21 ± 16
Malignancy (n = 69)	22 ± 14
Transudates (n = 38)	12 ± 9
Benign exudates ¹ (n = 17)	36 ± 24
Tuberculous pleuritis (n = 20)	54 ± 24

Difference between nontuberculous pleural effusion and tuberculous pleuritis, $p < 0.001$.

¹ Benign exudates: parapneumonic, 4; aortocoronary bypass surgery, 3; pulmonary embolism, 2; posttraumatic, 2; post-surgery, 1; lupus, 1; rheumatoid arthritis, 1; subphrenic abscess, 1; pericarditis, 1; hypothyroidism, 1.

Diagnoses and values of C-reactive protein in lymphocytic pleural fluids

Value, mg/l	Sensitivity	Specificity	LR+	LR-
≥ 30	95 (73-100)	74 (65-81)	3.68 (2.68-5.04)	0.06 (0.00-0.45)
≥ 35	80 (56-93)	81 (72-87)	4.13 (2.71-6.29)	0.24 (0.10-0.59)
≥ 40	70 (46-87)	87 (80-92)	5.42 (3.16-9.30)	0.34 (0.17-0.67)
≥ 45	55 (32-76)	92 (85-96)	6.82 (3.33-13.93)	0.48 (0.30-0.79)
≥ 50	45 (23-68)	95 (89-98)	9.30 (3.71-23.30)	0.57 (0.38-0.86)

Sensitivity and specificity are percentages. 95% confidence interval in parentheses. LR = Likelihood ratio.

Diagnostic accuracy of C-reactive protein for tuberculous pleuritis at different cut-off values

- ⌘ *Conclusions:* CRP pleural fluid level determination is useful in the diagnostic workup of lymphocytic pleural effusions. High CRP levels are very suggestive of tuberculous pleuritis, and low CRP levels make this diagnosis unlikely.

Parting Thought...



Life is not a matter of holding good cards, but sometimes, playing a poor hand well.

~ **Jack London**

American author who wrote *The Call of the Wild* and other books. A pioneer in the then-burgeoning world of commercial magazine fiction, he was one of the first Americans to make a huge financial success from writing.

(End, 5)