A case report: Cutaneous tuberculosis presenting as chronic thoracic chest wall fistula

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Background: Cutaneous tuberculosis is now uncommon despite the rising incidence of extrapulmonary tuberculosis in areas with high prevalence of HIV infection. Nevertheless it is still important to know the multiple clinical manifestations of cutaneous tuberculosis. We report a rare form of cutaneous tuberculosis presenting as cutaneous fistula over the anterior thoracic chest wall.

Methods: Patient presentation:

A 50-year-old man from Afghanistan who presented with complaint cutaneous lesions over the anterior chest wall. There were two fistula with purulent discharge which started 3 months ago as a small papule without pain and pruritus the size of papules increased and there was no response to outpatient antimicrobial treatment. There was history of diabetes mellitus type 1 and ischemic heart disease and hyperlipidemia. He migrated from Afghanistan to Iran 16 years ago and he had no travel to there during past years. There was no history of TB in patient and his family. The PPD test was negative. In laboratory examination there was significant increased of ESR (125 mm/hr) and anemia (Hb:11.1 g/dl). Cutaneous TB was suspected regarding to lack of response to antibiotic treatment and persistence of disease. Skin biopsy showed multiple granulomas consisting of Langhans giant cells compatible with tuberculosis and Ziehl-Neelsen staining of secretions revealed numerous acid-fast bacilli. Anti tuberculosis treatment with Isoniazid, Rifampin, Ethambutol, Pirazinamid was administered. Culture of secretion was positive for Mycobacterium tuberculosis. The pulmonologist, which consists on: radiological examination CT; erythrocyte sedimentation rate, serologic test of tuberculosis infection among health care workers. Examine the efficacy of intradermal tuberculin test in a population with high vaccination coverage rates with antibodies to Bacille Calmette Guerin.

Methods: After obtaining informed consent, to fill a questionnaire, TST test was performed Mantoux technique using 0.1 ml of pure protein intradermal tuberculin then we measured intradermal reaction between 304 workers include doctors, resident nurses, technical and nursing assistants, pharmacist, exclusion criteria pregnant or postpartum women Positives cases were include into a diagnosis confirmation protocol Radiological and Chest CT, serologic test of adenosine deaminase, erythrocyte sedimentation rate. Spu-tum Culture by staining Ziehl-Neelsen method was used.

Results: 272 dose of 0.1 ml. pure protein derivative of tuberculin RT 23 were applied. Reading was 72 hours after. Were found 52 (19.11%) of positives cases when the cutoff was 10 mm and 50 (18.38%) when the cutoff was 15 mm. After a positive test greater than or equal to 15 mm, the worker was admitted into a deep diagnostic protocol by the pulmonologist, which consists on: radiological examination CT; erythrocyte sedimentation rate, serologic test of adenosine deaminase; test for AFB staining and Ziehl-Neelsen method was used. Results: 272 dose of 0.1 ml. pure protein derivative of tuberculin RT 23 were applied. Reading was 72 hours after. Were found 52 (19.11%) of positives cases when the cutoff was 10 mm and 50 (18.38%) when the cutoff was 15 mm. After a positive test greater than or equal to 15 mm, the worker was admitted into a deep diagnostic protocol by the pulmonologist, which consists on: radiological examination CT; erythrocyte sedimentation rate, serologic test of adenosine deaminase; test for AFB staining and Ziehl-Neelsen method was used.

Conclusion: cutaneous tuberculosis can occur in an unusual form in an immunocompetent patient such as fistula formation. Regarding to high prevalence of TB among Afghanian people, TB must be suspected in any chronic cutaneous lesion and the disease deserves special attention because its prevalence can be expected to increase due to high rate of migration from Afghanistan to Iran.

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59.004

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Chemonics, Lima, Lima, Peru

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strongly recommended using this simple, cheap easy to use, test at least every 9 months in all health care workers.

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59.005

Predictive value and cut off point of PPD in probable patients with pulmonary tuberculosis

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Background: Tuberculin skin testing (TST) is used for identification of tuberculosis infection. Interpretation of test is related to many factors such as prevalence of disease in community, use of vaccine, age of patients and exposure to non-tuberculous mycobacteria. Cut off point of TST is reported between 2 to 16 mm in different communities. In this study we aimed to determine the predictive value and cut off point of TST in probable patients with pulmonary tuberculosis (TB).

Methods: A total of 714 probable patients with pulmonary tuberculosis with mean age 57 ± 20.11 years were included in this study. 52.9% of them were male. All subjects were tested using 5 tuberculin units of purified protein derivative (PPD). Gold standard for diagnosis of TB was considered positive smear or culture. Specificity, sensitivity, positive predictive value (PPV) and negative predictive value (NPV) of TST were determined. Cut off point of PPD was determined using ROC curve.

Results: 113 patients from 714 suspicious subjects (15.82%) had pulmonary tuberculosis. 80% of them had positive sputum smear. Sensitivity, specificity, PPV and NPV for PPD >= 4 mm were 80%, 61%, 28% and 94% respectively. The calculated cut off point for PPD was >= 4 mm.

Conclusion: Our results showed that a TST reaction smaller than 5 mm was seen in patients with bacteriological confirmed pulmonary tuberculosis. Predictably, as the cut-off is moved to larger reactions, sensitivity decreases and specificity increases. More estimates are needed to identify the accurate cut off point of PPD in tuberculosis patients.

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Challenges in the case detection of sputum smear-positive tuberculosis in Rwanda: A lowresource setting

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Background: The use of smear microscopy in patients suspected of tuberculosis presenting to health services is of great value in case detection and in reducing the spread of the infection throughout the population by treatment of such cases. The TB diagnosis using Smear microscopy places a burden on the patient. A patient with suspected TB typically has to visit the clinic at least twice before a diagnosis can be made, and then has to return again for the results. In the present study, we aimed to evaluate the performance of the sputum smear microscopy and its public implication with reference to recommendations for the number of specimen that have to be collected from TB suspect.

Methods: This study was conducted at the department of microbiology, University of Butare Teaching Hospital after obtaining clearance from the ethical committee. In this study, using TB register and laboratory sputum register, we review laboratory records of seven hundred and forty six patients who were TB suspect during the period from January 2007 to December 2008. Data processing and statistical analysis were performed using SPSS software (Windows version 16.0). The results were expressed as percentage, with significance at 5%.

Results: During the study period, 741 new TB suspects submitted sputum specimens for AFB smear. Among the suspects, 46% (341) of patients submitted sputum specimens in accordance with the guidelines (i.e., three sputum samples), 14.3% (106 of 741) had two sputa submitted for AFB smear and 39.7% (294 of 741) submitted only one sputum specimen. Of the 39.7% of TB suspects who did not show up after submitting the first on-spot specimen, 6.5% (19) had a smear-positive first. Of 341 patients submitting three sputum samples, 55 (16.1%) suspects were found to have at least one positive smear. Of these, 47 (85.5%) were detected from the first specimen and 8 (14.5%) were positive on the second specimen but not the first. The third specimen did not have any additional diagnostic value for the detection of AFB as shown in Fig. 2.

Conclusion: In conclusion, our result show that examining two sputa smears was sufficient for the detection of AFB in our laboratory. Further research involving different laboratories from all of the regions of Rwanda is needed to reassess these findings.