INTRODUCTION

Tuberculosis Bacillus (TB) remains a global public health challenge. It is estimated that 8.7 million new cases of TB and 1.4 million people died from TB. Tuberculosis peritonitis (TBP) has been proven to be the most important cause of high mortality. The results of mycobacterial cultures might take more than 4 weeks, and their sensitivity ranges from 43% to 83%. In addition, the result depends on the quality of the samples cultured and the methods utilized, and acid-fast-stained smears are disappointingly intensive. Hence, there is a need for an early and reliable method for the diagnosis of abdominal tuberculosis. Conventional diagnosis of tuberculosis employs microscopic identification (AFB). However, diagnosis by this method is difficult in paucibacillary samples like ascetic fluid, and a long period of time is needed for growth in culture. Hence, apart from AFB culture and staining, the cytomorphological study of ascetic fluid and the appearance of ascetic fluid were also noted to evaluate the positivity of tuberculosis.

MATERIALS AND METHODS

50 (fifty) adult patients aged between 20 to 50 years visiting the pathology department of the Sambram Institute of Medical Sciences and Research Centre (SIMSAR), BEML, KGF Kolar, Karnataka-563115 were studied.

Inclusion Criteria
Patients with clinical features of abdominal tuberculosis like abdominal swelling, fever, night sweats, weight loss, and anorexia were selected.

Exclusion Criteria
Children below 20 years, immunocompromised, and with abdominal malignancy were excluded from the study.

Method: Each patient’s undergone a routine chest-x-ray blood examination. Ascetic fluid smears were stained with Z-N staining, PAP, and Giemsa. In addition to this, the gross appearance of ascetic fluid was noted, and AFB culture was also done by the L. J. Method for the classification of ascetic fluid. In non-tuberculosis, the ascetic fluid may be clear or turbid; the color may be reddish and show various types of cytomorphological patterns, like the predominance of neutrophils or a mixed population of inflammatory cells, the presence of plenty of mesothelial cells, or malignant cells, as per the etiology. The constant finding is the presence of macrophages and mesothelial cells in larger numbers, along with a few lymphocytes and neutrophils. Mesothelial cells may be seen in groups and sheets. The study of ascetic fluid in the tubercular patient’s appearance is chylous and cloudy or turbid.
Biochemically, SAAG is now considered more sensitive and specific. The duration of the study was from May 2014 to April 2016.

**Statistical Analysis:** appearance, cytomorphological profile, and culture of staining were classified by percentage. The statistical analysis was carried out in SPSS software. The ratio of males and females was 2:1.

**RESULTS**

[Table 1] Appearance of Ascetic Fluid 3 (6%) reddish, 6 (12%) transparent, 10 (20%) cobweb formation, 31 (62%) straw, and cloudy

[Table 2] Cyto-Morphological Study of Ascetic Fluid: 3 (6%) histocytes, 8 (16%) mesothelial cells (occasionally), 6 (12%) mixed inflammatory, 11 (22%) predominant lymph nodes, and 22 (44%) good cellularity

[Table 3] Study of culture and staining of ascetic acid: 6 (12%) positive cultures of AFB of ascetic fluid, 44 (88%) negative, 9 (18%) Zn staining of ascetic fluid, and 41 (82%) negative.

**DISCUSSION**

Present study of cytology of ascetic fluid in abdominal tuberculosis in the south Karnataka population. The appearance of ascetic fluid (AF) was 3 (6%) reddish, 6 (12%) transparent, 10 (20%) cobweb formation, and 31 (62%) straw and cloudy [Table 1]. The cytomorphological study of AF found that 3 (6%) had histocytes, 8 (16%) had mesothelial cells, (occasionally), 6 (12%) were mixed-inflammatory, 11 (22%) had predominant lymph nodes, and 22 (44%) had good cellularity [Table 2]. In the culture and staining study, 6 (12%) were positive for AFB. Ascetic fluid had 9 (18%) were Positive for Zn staining of Ascetic fluid [Table 3]. These findings are more or less agreement with previous studies. 

The peritoneal cavity of the abdomen is drained by the lymphatic vessels, and the stomach of the peritoneal surface of the diaphragm has been due to absorption. Fibrin plugs and fibrous adhesions may obstruct the flow of these lymphatic vessels, especially in cirrhosis, facilitating ascetic fluid.
CONCLUSION

Present study of the cytology of AF in abdominal TB has diverse and non-specific symptomatology because abdominal TB is defined as infection of the peritoneum or solid abdominal organs with Mycobacterium tuberculosis. The peritoneum and ileocecal region are the most likely sites of infection and are involved in the majority of cases by hematogenous spread or through swallowing of infected sputum from primary pulmonary tuberculosis (PT). PT is apparent in less than half of the patients with AF of the abdomen. Hence, endoscopic, radiological, microbiological, histological, and molecular techniques are needed to corroborate the TB. Moreover, AF of the abdomen is associated with HIV infection as well. Hence, this study demands further genetic, immunological, nutritional, and pathophysiological studies because the exact pathogenesis of AF is still unclear.

REFERENCES