



Cytomorphological Study of Ascitic Fluid for Evaluation of Different Malignancies: A 1 Year Study

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Abstract

Introduction: Ascites means an increased volume of fluid collecting within the peritoneal cavity. It should be used judiciously for cases where there is a strong clinical suspicion for malignancy. A detail morphological analysis with proper clinical information and correlation with other investigations can be used to reach definitive diagnosis.

Aims & Objective: 1) To study the cytological features of different ascetic fluids. 2) To find out the most common findings in ascetic fluid. 3) To evaluate the most common malignancy in the ascetic fluid.

Material & Method: Study was conducted in the Department of Pathology Cytopathology section. Fluids are processed and slides were prepared for the microscopic analysis.

Results: 146 ascetic fluids were analyzed out of which 98 were of cirrhosis, 32 were malignant or metastatic, 14 are of non specific inflammation, 2 are acellular smears.

Conclusion: Ascitic fluid examination is an important diagnostic tool for various malignancies associated with liver, ovary etc. It is the simplest method to approach toward malignant lesions as per the metastatic deposits.

Introduction

Ascites is the first sign of malignancy in around half of all patients with peritoneal carcinomatosis secondary to malignancies of the gynecological and gastrointestinal tracts^[1,2,3,4]. Detection of malignant cells on effusion cytology in these patients is important for management and disease prognostication.^[5,6,7] Both architecturally and cytologically reactive mesothelial cells may pose a diagnostic challenge.

Peritoneal cytology has an important role in the diagnosis and staging of abdominal and pelvic malignancies. We can avoid various diagnostic pitfalls by understanding the different methods of sampling, proper clinical history, and by preparing cell blocks and review other prior specimens.

There are three serosal body cavities in our body. They are pleural, peritoneal and pericardial cavity. These serous cavities are lined by outer parietal and inner visceral layer of epithelium^[8]. Normally they contain very little amount of lubricating fluid which is up to 50 ml required for lubricating underlying viscera. Accumulation of fluid is known as effusion which occurs when there is imbalance between fluid formation and removal^[9]. Common causes of Exudative effusion in ascites are tuberculosis, bacterial infection of GIT viscera, trauma, secondary peritoneal carcinomatosis, lymphomas, leukemia, primary hepatic tumor, mesotheliomas etc.

The differentiation of the fluid into malignant or nonmalignant fluid is the main aim for cytology

examination and it has a deep impact on treating patients. Exfoliative cytology for fluid is highly specific though less sensitive to detect malignancy^[10]

Aims & Objective

1. To study the cytological features of different ascetic fluids.
2. To find out the most common findings in ascetic fluid.
3. To evaluate the most common malignancy in the ascetic fluid.

Material & Methods

The above study was conducted in the department of Pathology M.G.M. Medical College Indore. This was a one year study. A total of 468 cases of ascetic fluid were taken from the cytopathology section. Fluids were received and then routine examination was done including quantity, colour, appearance, clarity etc after that sample is centrifuges and then note the button formation or deposit slide was prepared from the deposit. And after that pap stain was done after staining slides were mounted and the microscopic examination was done.

Additional information regarding clinical history or age sex etc was obtained from the record room.

Inclusion Criteria– All the ascetic fluid were taken

Exclusion Criteria– Already treated cases and other body fluid.

Result & Observation

A total of 146 cases were studied.

Table No. 1: Distribution of Cases as Per Cytological Findings

Ascetic fluid diagnosis	No. of cases	percentage
Cirrhosis	98	67%
Malignancy	32	21%
Inflammation	14	9.5%
Acellular	2	1.3%
Total	146	100%

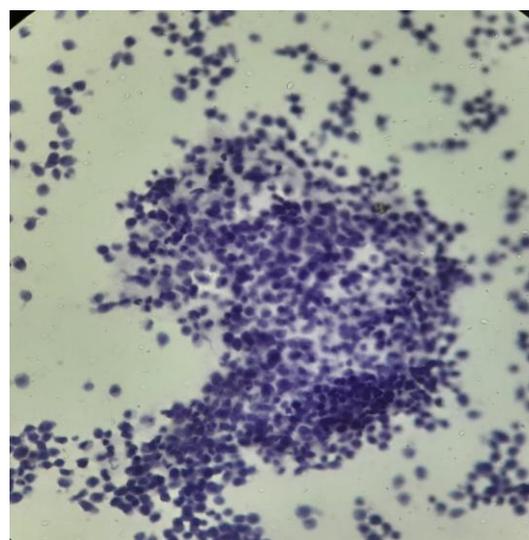
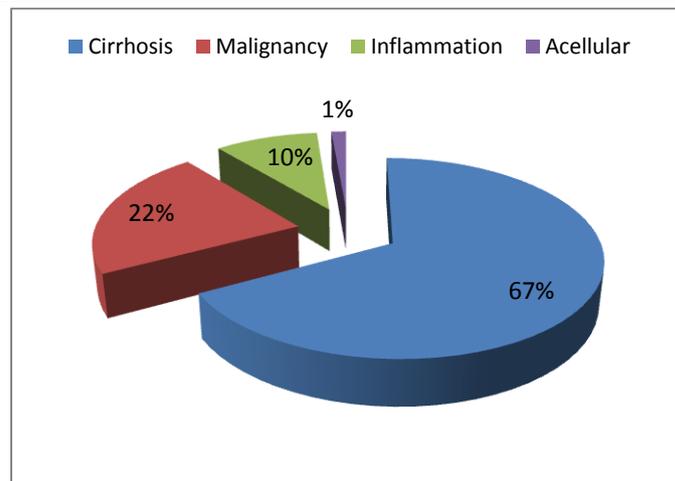


Fig. 1: Low power view of deposits of adenocarcinoma

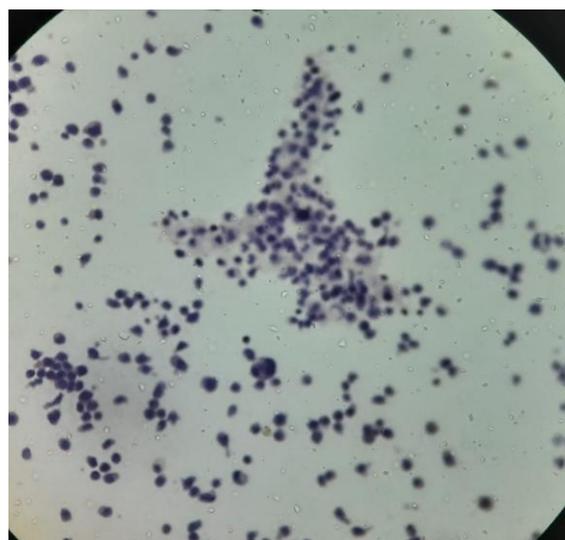


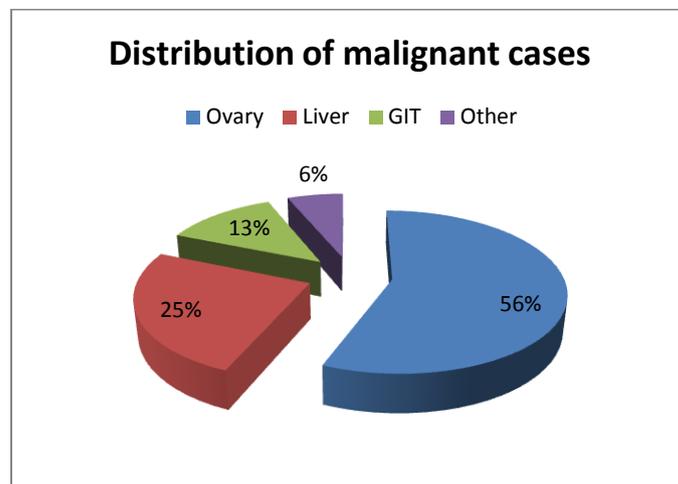
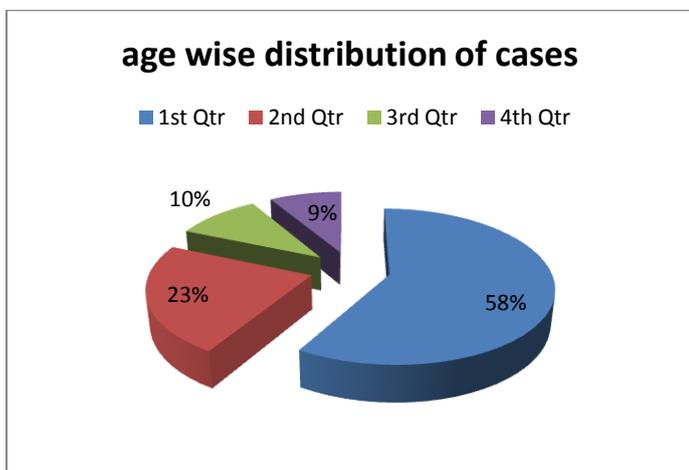
Fig.2: low power view of malignant lesion

Table No. 2: Age wise distribution of cases

Age	cases	percentage
<20 years	28	19.1%
20 – 40 years	15	10.2%
40 – 60 years	76	52%
>60 years	27	18.4%
Total	146	100%

Table No. 3: Distribution of malignant cases

Diagnosis	cases	percentage
Ovary	18	56.2%
Liver	8	25%
GIT	4	12.5%
Other	2	6.25%
Total	32	100%



Discussion

Parameters	Present study	Dr S P Tathe at al	Oumer Abdu Muhie at al
Cause of ascitis	67% cirrhosis	80.7% cirrhosis	-
Metastatic lesion	Nearly similar	98.6% due to metastasis	-
Malignant ascitis	21.9%	4.5% cases are malignant	-
age	52% cases were between 40 to 50 year of age	-	77%cases were 50 year old

Conclusion

Ascitic fluid examination is helpful for both neoplastic and non neoplastic conditions. It is a simple, rapid, inexpensive and reliable technique particularly in resource limited setting.

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