Abstract : Para Clinical Sciences

A Comparative Study of Findings of CT Scan and Post Mortem Examination of Head Injury Cases in Bikaner Region

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INTRODUCTION

Head injury is a significant public health problem worldwide and is predicted to surpass many diseases as a major cause of death by 2020. This study was aimed at comparing findings of CT scan and post mortem examination of head injury cases in Bikaner region.

METHODS

The study was carried out in association with trauma center after institutional ethical clearance among 100 cases of head injury. The findings of CT scan and post mortem examination were compared.

RESULTS

Maximum cases (38%) were in age group of 21-30 years and minimum (3%) in 0-10 years. Road traffic accidents contributed to 89% cases. On autopsy, there were 75 cases of skull fracture, 14 extradural haemorrhage (EDH), 68 subdural haemorrhage (SDH), 79 subarachnoid haemorrhage (SAH), 10 intracerebral haemorrhage (ICH), 26 brain edema and 49 cortical contusions while on CT scan, these were 67, 12, 60, 60, 4, 18, and 39 respectively; thus, making a disparity of 10.66%, 14.28%, 11.76%, 24.05%, 60%, 30.76% and 20.40%, respectively. Laceration of brain was observed in 2 cases on biopsy but was not observed in any case on CT scan.

CONCLUSION

Although CT scan is a useful tool for the diagnosis of various kinds of lesions of head injury, autopsy was found to be more effective in detecting them.

A Study of Prevalence of Multi Drug Resistance TB in Jodhpur Regions of Western Rajasthan: A Hospital Based Cross Sectional Study

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INTRODUCTION

India is a high tuberculosis (TB) burdened country with increasing prevalence of multidrug resistant tuberculosis (MDR-TB). This study aimed to find out the prevalence of drug sensitivity patterns, prevalence and geographical distribution of pulmonary tuberculosis in Jodhpur region of Western Rajasthan.

METHODS

This study was conducted on 220 sputum samples of tuberculosis patients which were evaluated by MTBDRplus molecular assay (Line probe assay, LPA) for rapid detection of multidrug resistant *M tuberculosis* directly from smear positive pulmonary samples.

RESULTS

There were 156 smear positive sputum samples out of which 140 were found to be LPA valid results. Rural population was more susceptible to tuberculosis and drug resistant tuberculosis than urban population. Males were more commonly at risk for tuberculosis than females. Mineworkers were more prone to get infected with tuberculosis and drug resistant tuberculosis. Prevalence of MDR-TB was found to be 11.42% with mono-resistance to isoniazid and rifampicin, 4.28% and 6.42%, respectively. The LPA valid smear positive pulmonary samples sensitive to both drugs were 77.85%.

CONCLUSION

The increased prevalence of multidrug resistant tuberculosis (MDR-TB) in this region is a cause of concern.

Histopathology and Immunohistochemistry (ER, PR Status) of Breast Carcinoma

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INTRODUCTION

Prognosis of breast cancer is related to a variety of clinical, pathological, and molecular features including estrogen receptors (ER) and progesterone receptors (PR). The objective of this study was to find correlation of hormone receptor expressions with age, menstrual status, Nottingham Prognostic Index (NPI), grade, lymph node stage, and tumor size.

METHODS

A total of 70 cases of mastectomy specimens were received. The gross examination, histopathological examination, grading, and lymph node staging were done for these cases. NPI score was analysed. Out of 70, 40 cases of breast carcinoma were selected for ER-PR status.

RESULTS

Pre and postmenopausal women were affected more commonly. Most of the patients had tumor size ranging from 2-5 cm. Right-sided tumors were seen more than the left sided, and one case had bilateral involvement. Majority of the cases were infiltrating ductal carcinoma, not otherwise specified (NOS). Lymph node metastasis was observed in 63.63% of patients. Most of the tumors were categorized as grade II tumors followed by grade III and grade I. Out of 40 patients studied for ER-PR expression, ER-positive were 42.5% and PR positive were 35%. The receptor positivity for both hormones was present in 27.5%. 55% were negative for both ER and PR. No significant association of ER-PR expression was found with lymph node stage and tumor size.

CONCLUSION

There is definite correlation of hormone receptor expressions with age, menstrual status, NPI, and grade.

A Retrospective and Prospective Study of Prostatic Specimens with Immunohistochemistry Confirmation by High Molecular Weight Cytokeratin (34βE12) in Suspicious and Atypical Cases

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INTRODUCTION

Prostatitis, nodular hyperplasia (NH), prostatic intra-epithelial neoplasia (PIN), and prostatic tumors are frequently encountered lesions. The purpose of this study was to evaluate the complete spectrum of various prostatic lesions and to study the role of basal cell marker 34βE12 in differentiating benign and malignant lesions of prostate, especially in suspicious and atypical cases.

METHODS

A total of 334 prostatic biopsies after 10% formalin and adequate fixation, were taken through different processing fluid for paraffin embedding. Five-micron thin sections were taken and stained with haematoxylin and eosin stains. Sections thus prepared were examined in detail for various morphological lesions after immunohistochemical (IHC) staining by antibodies against 34β E12.

RESULTS

Out of 334 prostatic specimens received, 254 cases were benign (76.04%), 20 cases premalignant (5.98%), and 53 cases (15.86%) were malignant. Out of 20 cases of PIN, 14 were low grade PIN and 6 were high grade PIN. The maximum numbers of cases were seen in Gleason's grade 3 followed by 4 and 5. Least common pattern was grade1.

CONCLUSION

PIN, especially high grade type are commonly observed premalignant lesion, in cases of adeno-carcinoma. IHC marker 34βE12 can be used for confirmatory diagnosis of PIN and atypical or suspicious cases.

Classification of Urothelial Neoplasms with Special Reference to Prognostic Factors with Immunohistochemistry Studies

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INTRODUCTION

Bladder cancer is the most common malignancy involving the urinary system. Urothelial (transitional cell) carcinoma is the predominant histologic type and accounts for 90 percent of all bladder cancers. The purpose of this study was to classify urothelial neoplasms with special reference to prognostic factors with immunohistochemistry studies**.**

METHODS

A total of 54 cases were included in this study. Morphology along with some case special stain (PAS, RS, Mucicarmine) and immune-histochemistry (cytokeratin, epithelial membrane antigen) were used.

RESULTS

Out of 54 cases, there were 4 papillary neoplasms of low malignant potential, 23 low grade, 19 high grade transitional cell carcinomas, and rest were rare (adeno, squamous, yolk sac) neoplasms. 92.59% were males between 50-70 years age group. Common causes were bidi smoking and tobacco chewing (chemical) and common occupation was agriculture. High grades and high stages had low survival. Severe changes in surrounding mucosa were found in high grade tumors and associated with poor prognosis.

CONCLUSION

Multiplicity has no correlation with prognosis. High mitotic rate was associated with high grades and high stages, and had poor prognosis. High inflammatory response had good survival.

Retrospective Study of Squamous Cell Carcinoma of Cervix in Jodhpur Region

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INTRODUCTION

Cervical cancer is the fourth most common cancer among women in the world and it is the most common cancer among Indian women. It accounts for 20% of all malignant tumors. Squamous cell carcinoma is the most common histologic subtype accounting for 75-80% of cervical cancer. The purpose of present study was to analyze the incidence, age wise distribution, and other parameters of squamous cell carcinoma and its subtypes.

METHODS

This retrospective study was done among 290 biopsies received from cases of squamous cell carcinoma of cervix. Wherever necessary, new sections were made from formalin fixed paraffin embedded blocks and stained with hematoxylin and eosin.

RESULTS

The most common subtype was non-keratinizing squamous cell carcinoma (71.12%). Age wise distribution showed highest incidence of squamous cell carcinoma (>50% of cases) noted in 41-60 years of age. According to grades of differentiation, the most common carcinoma was moderately differentiated carcinoma of cervix (82.16%) followed by well differentiated carcinoma of cervix (13.01%), and poorly differentiated carcinoma (4.83%).

CONCLUSION

The most common subtype of squamous cell careinoma was non-keratinizing. The most common clinical presentation was bleeding per vagina.

Study of Changes in Peripheral Blood Film and Bone Marrow in Patients of Leukemias and Lymphomas

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INTRODUCTION

A hematological malignancy is characterized by widespread, rapid, and disorderly proliferation of leukocytes and their precursor and by the presence of immature leukocytes in blood, often in very large numbers. The purpose of this study was to correlate changes in cells in peripheral blood film (PBF), bone marrow aspiration (BMA), and bone marrow biopsy (BMB) of newly diagnosed patients with leukemia and lymph node biopsy proven cases of lymphoma.

METHODS

This hospital based observational study was carried out among a total of 100 newly diagnosed patients of leukemia or lymph node biopsy proven cases of lymphoma. Various blood investigations, peripheral blood film examination, bone marrow aspiration, and biopsy were done.

RESULTS

The overall positive correlation of peripheral blood examination and bone marrow aspiration cytology in leukemias was 91.5% and positive correlation between BMA and BMB examination was 92.14%.

CONCLUSION

Peripheral blood examination was complementary to bone marrow aspiration and diagnostic in almost all cases except the one with non-hodgkin lymphoma infiltration, for which bone marrow aspiration and biopsy was useful.

Drug Utilization Study of NSAIDs in Indoor Orthopaedic Patients in a Tertiary Care Hospital at Udaipur (Rajasthan)

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INTRODUCTION

Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly prescribed group of drugs in orthopaedics. The present study was undertaken to find out the current trend of NSAIDs prescription in orthopaedics and also to calculate and compare prescribed daily dose (PDD) and defined daily dose (DDD) ratio to find out the rational use of NSAIDs.

METHODS

This was a cross-sectional descriptive study conducted on 104 patients of the age ≤90 years. Blood investigations, chest radiographs and CT scan, and MRI were performed. All the prescribed NSAIDs were coded according to ATC classification.

RESULTS

Among oral NSAIDs, tablet aceclofenac + paracetamol (100 +325 mg) was used in maximum patients (49.04%). Injectable NSAIDs were given more in males (88.89%) than females (11.11%). Mean duration for oral NSAIDs was 6.16 days and for injectable 2.02 days. The PDD and DDD ratio was maximum for tablet Etoricoxib (1.5) and minimum for tablet Tramadol hydrochloride (0.138).

CONCLUSION

Mean duration for all NSAIDs was statistically significant. Most NSAIDs were prescribed in appropriate dose and their PDD-DDD ratio was significant. We can improve the rational use and current prescription pattern of NSAIDs to avoid adverse effects and adaptations.