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Diagnostic and therapeutic utility of indigenous technique of pleuroscopy

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Introduction: Presently available thoracoscopy techniques are not only costly but also intricate, needing specialized set ups, personnel and training. To overcome these drawbacks, we have devised, and used in patients, an indigenous technique of pleuroscopy (patent application Nos. 1066/ MUM/ 2012 published on14/12/2012; and Application No.1400/MUM/2012 published on16/11/12). It's a set of conduits consists of simple- straight, simple -curved, visceral and parietal metallic conduits, which help us to pass Fibre optic bronchoscope to the desired sites, and to enable us perform various procedures. Thus, this technique can be used for both, therapeutic and diagnostic purposes.

Aim & Objectives: The main aim of this study is to assess the diagnostic and therapeutic uses of indigenous technique of pleuroscopy in various pleural diseases.

Material & Methods: All the cases with pleural pathologies, where pleural spaces filled with fluid or air, were subjected to indigenous pleuroscopy under conscious sedation and local anaesthesia, with usual precautions. Specified indigenous conduit is passed through chest stoma and then fibre optic bronchoscope is inserted through it. Usual order of selection of conduits is; simple straight conduit- to drain pleural contents; short curved conduit- for study on shorter radius of parietal pleura; parietal introducer conduit- for complete parietal pleura; visceral conduit- for visceral pleura. There are more accessories like detachable handles, rubber corks, etc available. The diagnostic and therapeutic work is done with help of bronchoscope under vision. These conduits are used in serial manner one after another. After exploring both the pleurae and completing the relevant procedures the bronchoscope and conduits were removed, Intercostal Drain was inserted in chest. Patients were managed in ward postoperatively. Supportive medications, physiotherapy were instituted. Chest tube was removed after full expansion.

Results: We had 443 cases of pleural diseases in final analysis. Clinically, they were pleural effusions in 227 (51.2%) patients, hydropneumothorax in 98 (22.1%), empyema, 52 (11.8%), pneumothorax, 46 (10.3%), mass lesions in 12 (2.8%), and haemothorax in 46 (1.8%). Laboratory studies revealed malignancy was in 104 (23.4%), tuberculosis 188 (42.4%), pyogenic bacterial 87 (19.8%), nonspecific 64 (14.4%0. Therapeutic procedures included thick adhesiolysis in 127 (38.4%), thin adhesiolysis, 92 (27.3%), opening of loculi, 52 (16.3%), breaking of loculi in 35 (10.3%) and Intercostal Drain manipulations in 23 (7.7%). Complications were in form of local pain in 41(10%), and minimal haemorrhages in 8 (2%) patients.

Conclusion: This easy, cost effective indigenous technique helped us to perform diagnostic and therapeutic procedures of pleura under conscious sedation with acceptable complications.