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OP01

ROLE OF ULTRASONOGRAPHY IN THE ASSESSMENT OF PULMONARY FIBROSIS IN ILD AND ITS CORRELATION WITH HRCT AND CRYOBIOPSYR. Davis¹, N.A. Latheef¹, R.P. Ambookan¹¹Amala Institute of Medical Sciences**Background**

For most ILD's currently tissue diagnosis is required for confirming exact pathology, except for confirmed UIP diagnosed by CT scan. The use of lung USG was investigated to establish it as a valid modality in diagnosis and monitoring of disease progression in ILD's. Aim of the study is to assess the role of lung ultrasound in evaluation of pulmonary fibrosis in cryobiopsy proven ILDs in comparison with HRCT.

Methods

Lung ultrasonography was performed in 43 patients with cryobiopsy and HRCT proven ILD. Ultrasound fibrosis index validated by Buda et al. was used to assess the degree of fibrosis. These ultrasonographic findings were evaluated and compared with HRCT findings to assess the role of lung ultrasound as a diagnostic tool for ILD.

Results

A total of 43 patients with HRCT and cryobiopsy proven ILD were included in the study. There was a significant agreement between the degree of fibrosis as assessed by HRCT fibrosis index and ultrasound fibrosis index with a P value < 0.0001 of Kappa statistical value of 0.874. The sensitivity and specificity of severe lung ultrasound fibrosis index in diagnosing UIP are respectively 88.9 and 61.8.

Conclusion

The lung ultrasound is a useful modality for screening and diagnosis of lung fibrosis in patients with ILD.

A STUDY OF CASES REQUIRING RE-TREATMENT SHORTLY AFTER RIGID BRONCHOSCOPIC THERAPY

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Background

Although rigid bronchoscopic therapy is used to treat dyspnea and ADL as early, it may be necessary for patients to undergo re-treatment over the short-term due to insufficient efficacy or complications. However, there have been few reports on short-term re-treatments.

Methods

We retrospectively reviewed cases that required re-treatment within 14 days after treatment with rigid bronchoscopy at our hospital over a 10-year period from July 2011 to June 2021.

Results

Our study included 30 patients (17 males and 13 females) with a mean age of 65 years (range: 30-86 years), 24 with malignant disease and 6 with benign disease. Of these, 26 patients underwent stenting. The mean time to re-treatment was 5.5 days (range: 1-13 days), and 2 patients underwent two re-treatments within 14 days. Re-treatment was due to stent migration in 10 cases (31.3%), stent collapse/deformation in 8 cases (25.0%), occlusion by blood clots or fibrin in 7 cases (21.9%), restenosis due to tumor growth in 3 cases (9.4%), insufficient effect in 2 cases (6.3%), expectorant failure in 1 case (3.1%), and enlarged fistula in 1 case (3.1%). Re-treatment therapies included stent replacement in 16 cases (50%), stent removal in 7 cases (21.9%, 3 of whom subsequently underwent tracheostomy), stent addition in 6 cases (18.8%), and new stent insertion in 3 cases (9.4%).

Conclusion

Stent migration was the most common cause of re-treatment following rigid bronchoscopic therapy over the short-term. Appropriate stent selection/therapy selection is important to prevent re-treatment.

OP03

EXTRACORPOREAL SUPPORT AS AN AID FOR COMPLEX CENTRAL AIRWAY OBSTRUCTION - A CASE SERIESB.P. Vidyasagar¹, H. Gonuguntla²¹Yashoda Hospital, Secunderabad, India² Yashoda Hospital, Secunderabad, India**Background**

Central airway obstruction (CAO) is a potentially life-threatening condition that can be due to a number of malignant and non-malignant processes. A low threshold of suspicion for CAO is critical so that it can be recognized and managed promptly. However, in some cases, the management of CAO can be life-threatening. Hence, a strategy for maintaining oxygenation and hemodynamic stability should be anticipated to avoid critical situations. Herein, we report the use of extracorporeal support in managing 4 different cases to secure oxygenation and facilitate interventions.

Methods

We reviewed four patients with central airway obstruction in whom ECMO support was initiated on an emergency basis to facilitate complex and advanced airway interventions at Yashoda Hospitals, Secunderabad (India) from Jan 2022 till now.

Results

We included 4 advanced bronchoscopy cases in which 2 were male and 2 were female. 2 patients were initiated on ECMO during the procedure due to complications and 2 of them before the procedure in view of severe respiratory failure. The procedures were performed effectively owing to ECMO support. In all the cases, ECMO support was weaned successfully. In one of the patients, complication was noted related to cannulation of ECMO.

Conclusion

Initiation of ECMO on emergency basis in patients with critical central airway obstruction leading to severe respiratory failure is safe and buys time to plan and execute high risk advanced bronchoscopic interventions and is not associated with additional complications.

THE “HITCH-STITCH” FOR PREVENTING HIGH TRACHEAL STENTING MIGRATION

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Background

Airway stenting is a standard treatment option for tracheo-bronchial obstruction and other conditions like tracheo-oesophageal fistula. To prevent stent migration, a percutaneous fixation strategy called the ‘hitch-stitch’ was described in 2018. We describe here an extended experience of the ‘hitch-stitch’ for silicone stents in high tracheal stenting situations and expanding indications to metal stents.

Methods

It is a retrospective study of 74 consecutive stent stitches placed in 54 patients over 11 years. Data analysed using SPSS (ver 25.0, SPSS Inc.:USA).

Results

74 percutaneous stitches were placed in 54 patients (36 males and 18 females). Mean age of the patients was 42(±19) years. Indication for stenting was tracheal stenosis in 63/74(85%) cases and tracheo-oesophageal fistula (TEF) in 11/74(25%) cases. Silicone stents were used in 56/74(75.5%) cases, while self-expanding metal stents (SEMS) were used in 18/74(24.5%) cases. Median length of stents used was 4 cm(2-7cm), with a median diameter of silicone stents 15mm (10 – 16mm) and SEMS 16mm (16 – 18mm). Majority of stents (84%) were high tracheal, with mean distance of proximal end of the stent from the vocal cord 2.4 cm (± 0.98). The ‘hitch-stitch’ anti-migration strategy had a high success rate, with distal stent migration in only 2 cases (2.7%) as the stitch had given way. These were repositioned and hitched with double-stitches. Minor complications included delayed skin healing (2.8%) and suture site infection (1.4%), which was successfully managed with oral antibiotics. Stitch removal was easy and had no associated complications.

Conclusion

In this large series of percutaneous ‘hitch-stitch’ as a stent migration prevention strategy, long term data shows it is safe and effective in an expanded cohort of silicone stents. Its extended utility is the successful application to metal stents, especially in TEF where the consequences can be deleterious. It is simple to do, with minimal extra requirements and not associated with any significant complications.

OP05

COMPARISON OF TRANSBRONCHIAL LUNG FORCEPS BIOPSY AND CRYOBIOPSY FOR DIAGNOSIS OF DIFFUSE PARENCHYMAL LUNG DISEASE- A PROSPECTIVE SINGLE CENTRE STUDY

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Background

Diagnosis of diffuse parenchymal lung disease is challenging and needs histopathologic examination when clinicoradiologic data is insufficient to make definitive diagnosis. Cryobiopsy is emerging as a novel technique for acquiring tissue sample thus this study aims to compare the diagnostic yield and safety profile of transbronchial lung cryobiopsy with forceps biopsy.

Methods

A prospective single centre study of 54 patients with unconfirmed DPLD diagnosis. Bronchoscopic cryobiopsy and forceps biopsy were sequentially obtained. Diagnostic yield & bleeding severity compared. Multidisciplinary approach used for diagnosis.

Results

The diagnostic yield for transbronchial lung biopsy using forceps vs Cryobiopsy techniques was higher for cryobiopsy ($p < 0.001$). The mean, median(Q1,Q3) diameter of tissue sample using forceps Vs Cryobiopsy was $[0.261 \pm 0.15 \text{cm}, 0.2(0.1,0.3) \text{cm}]$ vs $[0.843 \pm 0.35 \text{cm}, 0.8(0.5,1) \text{cm}]$ ($p < 0.001$). Most common diagnosis obtained was Hypersensitivity Pneumonitis (HP) 10(18.5%) & sarcoidosis 10(18.5%) followed by IPF 8(14.8%). Comparison of bleeding between the two biopsy techniques showed that mild bleeding occurred in 38(70.4%) vs 10(18.5%) with forceps vs cryobiopsy. Moderate bleeding requiring bronchoscopic manoeuvres were observed in 16(29.6%) vs 44(81.5%) with forceps vs cryobiopsy ($p < 0.001$). Pneumothorax observed in 2(3.7%) patients.

Conclusion

Lung cryobiopsy yields sample with larger size, lesser artefacts and has better representation of pathologic process amounting to statistically significant difference in diagnostic yield in DPLD compared to standard Transbronchial lung forceps biopsy (TBLB). Incidence of moderate category bleeding was higher with cryobiopsy than TBLB, but there was no life threatening bleeding in either groups. Bleeding complications were managed better using rigid bronchoscope which allows multiple instrumentation simultaneously and risk of pneumothorax reduced using fluoroscopic guidance and careful site selection.

APCB 2023 video presentation: <https://interventionjournalsvr.padimedical.com/osimis-viewer/app/index.html?study=630f6672-e396316f-20ef3104-e774c412-dead1d97>