

THE INTERVENTIONALIST

Vol.3 No.2

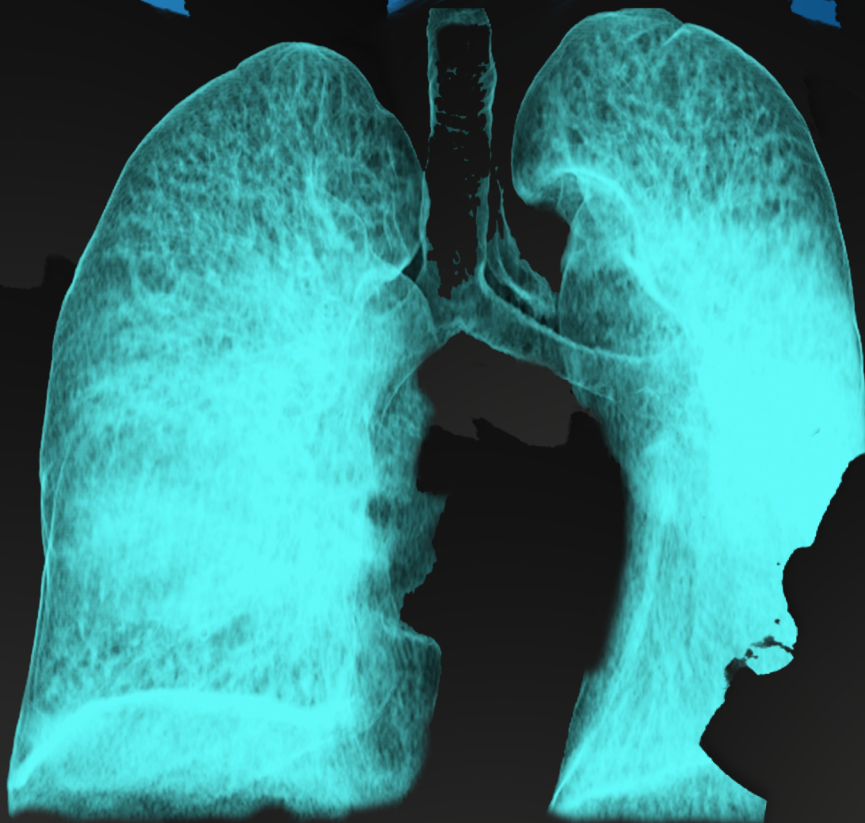
June 2023

e-ISSN: 2785-8944

Scientific Journal of Medical Intervention

<https://doi.org/10.32896/tij.v3n2>

JOURNAL



eISSN 2785-8944



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EDITORIAL

On behalf of the editorial board of The Interventionalist Journal (TIJ), I would like to extend my deepest appreciation to the founder team, who had built the foundation of this journal.

The aim of The Interventionalist Journal is to provide and served as a platform for all clinicians who are doing minimally invasive procedures to share their findings, expertise, innovations and experiences at the regional and international significance. We envisaged being providing a high-standard and evidence-based platform for publishing high impact publications.

I am humbly inviting each of you to actively participate and contribute to The Interventionalist Journal as an author, reviewer, and reader. The Interventionalist Journal has a strong starting point and I am confident that, we can eventually venture into new heights.

Sincerely,

Ezamin Abdul Rahim

MD, MMed Rad

Editor-in-Chief

The Interventionalist Journal

THE INTERVENTIONALIST JOURNAL

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Superior Mesenteric Artery Syndrome as an Atypical Aetiology of Upper Intestinal Obstruction in a Young Adult

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DOI: <https://doi.org/10.32896/tij.v3n2.1-9>

Submitted: 27.06.2023

Accepted: 27.06.2023

Published: 31.06.2023

ABSTRACT:

Superior mesenteric artery (SMA) syndrome is a rare cause of proximal bowel obstruction in young adults. Weight loss is one of the most significant aetiology of this condition. In young adults presenting with post-prandial abdominal pain, abdominal distension, anorexia and voluminous vomiting, the diagnosis of superior mesenteric artery syndrome should be considered. These symptoms are due to compression of the third part of the duodenum against the aorta by the overlying superior mesenteric artery. Computed tomography (CT) angiography of the abdomen is currently favoured in the literature to establish the diagnosis. We report a case of SMA syndrome in a 20-year-old Malay gentleman with a history of significant weight loss and kratom abuse for a year. A CECT scan of the abdomen was performed which established the diagnosis. This patient responded to conservative treatment of nutritional supplementation.

Keywords:

Superior mesenteric artery syndrome, acute abdomen, vascular compression syndrome

INTRODUCTION:

Superior mesenteric artery (SMA) syndrome was described in 1861 by Rokitansky. Later, in 1927, Wilkie described in more detail the clinical, anatomy and pathophysiological features and named it chronic duodenal ileus. SMA syndrome is also known as Cast syndrome or Wilkie syndrome. Typically, there is retroperitoneal fat surrounding the third part of the duodenum (D3), which acts as a cushion between the SMA anteriorly and the aorta posteriorly. SMA syndrome is caused by the loss of this fat, causing

a decrease in the aorto-mesenteric distance and angle, which leads to obstruction of the D3 part of the duodenum due to compression between the SMA and the aorta. This could result in various scenarios, including acute, intermittent and chronic, and partial or total duodenal obstruction. SMA syndrome is a rare cause of proximal duodenal obstruction.

CASE PRESENTATION:

A 20-year-old Malay gentleman with no known medical illness presented to the Accident and

Emergency Department with recurrent central abdominal pain associated with multiple episodes of vomiting. The symptoms progressively worsened over two weeks. The pain was localised to the epigastric region without any radiation to other areas. There were no relieving or aggravating factors. It was associated with increasing distension of the upper abdomen over one week. Prior to this, he had poor appetite, early satiety, intolerance to solid food and recurrent post-prandial vomiting for the past two months. This patient has also noticed a significant weight loss of approximately 10kg since he regularly consumed kratom a year ago. On examination, he had a thin build with a distended upper abdomen. The abdomen was mildly tender to palpation, but there was no guarding. Blood investigation parameters were unremarkable.

The supine abdominal radiograph showed a grossly dilated gastric cavity extending from the left upper quadrant to the central abdomen (Figure 1). No small or large bowel dilatation was seen. No pneumoperitoneum features were seen in the erect chest and supine abdominal radiographs. Ultrasound of the abdomen showed similar features (Figure 2). No free fluid was seen. The rest of the solid intraabdominal organs were unremarkable. In order to identify the cause of the obstruction, a contrast-enhanced computed tomography (CECT) scan of the abdomen was done which showed a severely dilated stomach and proximal duodenum up the level of the D3 part of the duodenum. A transition point with abrupt tapering was noted at the duodenum traversing between the superior mesenteric artery and abdominal aorta (Figure 3). The aortomesenteric angle was reduced, measuring 15 degrees (Figure 4). The aortomesenteric distance was also reduced, measuring 4mm (Figure 5). The location of the superior mesenteric vein (SMV) relative to the superior mesenteric artery (SMA) was normal in this patient, with the SMV lying to the right of the SMA, which pointed against a diagnosis of malrotation. No whirlpool sign was seen to suggest volvulus. No pneumoperitoneum or pneumatosis intestinalis was seen. The rest of the small and

large bowels were not dilated and were unremarkable. Ground glass opacities were seen at the left lower lobe, most likely secondary to aspiration pneumonia due to recurrent vomiting.

A diagnosis of SMA syndrome was made. This patient was treated conservatively. A nasogastric tube was inserted to decompress the gastric cavity. He was referred to a dietician who started him on enteral nutrition composed of titrated Ensure® Gold milk (Abbott Laboratories, IL, USA) through nasogastric tube feeding, targeting a daily calorie intake of 1700 kcal per day. He had significant clinical improvement and subsequently started on a high-calorie liquid and soft diet. He was also referred to social welfare and drug rehabilitation after discharge. On his last follow-up, he remained asymptomatic.

DISCUSSION:

SMA syndrome is rare, its prevalence in the chronic hospital setting is approximately 0.0965% and 0.0011 to 0.0052% in an acute hospital setting[1]. 75% of the cases occur in individuals 10 to 39 years old, with a slight female preponderance of approximately 64% [2]. Symptoms include post-prandial epigastric pain, fullness in the upper abdomen, nausea, vomiting and anorexia[2]. The pain, as in our patient, is most likely caused by stretching of the gastric cavity and might be relieved by a prone or left lateral decubitus position. The SMA originates at the level of L1-L2 and courses anterior and inferiorly, forming an angle with the aorta named the aortomesenteric angle (AMA)[3]. The D3 part of the duodenum, which is usually surrounded by retroperitoneal fat, passes between the aorta and proximal SMA. The fat layer acts as a cushion between the SMA and the aorta [2]. Loss of this fat causes the SMA to compress onto the D3 part of the duodenum against the aorta, as seen in our patient [4]. Repeated vomiting with weight loss will result in a self-propagating cycle leading to further progressive loss of the retroperitoneal fat, causing reduced cushioning of the D3 segment of duodenum and smaller aortomesenteric distance (AMD) and AMA [3].

SMA syndrome is known to be caused by rapid and significant weight loss as a result of conditions such as acquired immunodeficiency syndrome, malabsorption, cancer, burns, major surgery, eating disorders, drug abuse and bariatric surgery [2,3]. Our patient's history of regular kratom abuse could have predisposed him to this condition. Kratom contains mitragynine and 7-hydroxymitragynine, which act on opioid receptors [5]. Long-term use of kratom is known to cause poor appetite, gastrointestinal discomfort and weight loss [5]. In the literature, there are reported cases of SMA syndrome caused by heroin abuse, which similarly binds to opioid receptors [6]. SMA syndrome could also be found among post-corrective scoliosis surgery patients due to increased tension on the mesentery after lengthening the spine [3]. Another less common cause includes the application of external abdominal pressure by a body or hip spica cast [3].

Radiological examination is the primary investigative tool used to diagnose these patients, with CECT gaining the most traction. The CECT provides an assessment of the aortic vascular anatomy, D3 duodenal compression, and demonstrates dilated proximal bowels while excluding other obstruction causes. Hence, it is the diagnostic imaging modality of choice for SMA syndrome [3]. The scan is recommended to be done in the late arterial phase to allow simultaneous demonstration of the vessel anatomy and the obstructed bowels optimally. Positive oral contrast agents may be excluded in patients with severe obstruction, considering the risk of aspiration pneumonia [2,3]. The AMA is the angle between the SMA and the aorta. It is measured in a sagittal plane where the third part of the duodenum passes underneath SMA. The standard AMA is reported to be 28 to 65 degrees. The AMD is the distance between the SMA and the aorta. It is measured in an axial plane at the level of D3 duodenum as it travels between the SMA and the aorta. The typical AMD measurement is 10 to 28mm [2,3]. The two key imaging features in diagnosing SMA syndrome include an AMA which is smaller than 22 degrees and an AMD of

lesser than 8mm. An AMA of smaller than 22 degrees has a sensitivity of 42.8% and a specificity of 100%, while an AMD of lesser than 8mm has a sensitivity of 100% and a specificity of 100% for diagnosing SMA syndrome [2]. Other ancillary imaging findings include a dilated gastric cavity and proximal duodenum up to the level of D3 segment of the duodenum, followed by abrupt tapering where the horizontal part of the duodenum passes between the SMA and aorta [2]. All of these findings were demonstrated in our patient.

The initial management of SMA syndrome is usually conservative, which includes decompressing the stomach and duodenum using a nasogastric tube followed by providing enteral feeding [7]. This is followed by nutritional support with a small quantity of high-calorie liquid meals aimed at restoring the retroperitoneal fat and helping in weight gain in order to build up the fatty cushion surrounding the duodenum and increase the AMA and AMD [8]. Surgery is indicated when conservative management is unsuccessful or in the presence of severe symptoms [8]. The surgery of choice would be duodenojejunostomy which could be performed either open or laparoscopically [8]. Our patient showed an excellent response to conservative therapy.

CONCLUSION:

SMA syndrome is a rare cause of proximal bowel obstruction but should be kept in mind in young adults with a history of weight loss and persistent post-prandial vomiting. A CECT scan of the abdomen provides the diagnosis as well as excludes other causes. Chronic conditions such as malabsorption, eating disorders and substance abuse should be considered as contributory factors in patients with SMA syndrome. Once the patient has been stabilised, the long-term management should be focused on correcting the aetiology of SMA syndrome. Conservative management by providing high-calorie nutritional support can be attempted to solve the symptoms prior to surgical management.

CONFLICTS OF INTEREST:

The authors have no potential conflicts of interest to report regarding this presentation.

PATIENTS' CONSENT FOR THE USE OF IMAGES AND CONTENT FOR PUBLICATION:

Consent had been acquired from the patient to publish images and content.

REFERENCES:

1. Lee CS, Mangla JC. Superior mesenteric artery compression syndrome. *Am J Gastroenterol* 1978 Aug;70(2):141-50.
2. Fong JKK, Poh ACC, Tan AGS, Taneja R. Imaging findings and clinical features of abdominal vascular compression syndromes. Vol. 203, *American Journal of Roentgenology. American Roentgen Ray Society*; 2014. p. 29–36.
3. Lamba R, Tanner DT, Sekhon S, McGahan JP, Corwin MT, Lall CG. Multidetector CT of vascular compression syndromes in the abdomen and pelvis. *Radiographics*. 2014;34(1):93–115.
4. Mathenge N, Osiro S, Rodriguez II, Salib C, Tubbs RS, Loukas M. Superior mesenteric artery syndrome and its associated gastrointestinal implications. Vol. 27, *Clinical Anatomy. John Wiley and Sons Inc*; 2014. p. 1244–52.
5. Singh D, Narayanan S, Grundmann O, Jeng N, Chear Y, Murugaiyah V, et al. Long-Term Effects of Kratom (*Mitragyna speciosa*) Use. Vol. 16, *Malaysian Journal of Medicine and Health Sciences*. 2020.
6. Rizvon, Perlman, Mustacchia. Superior Mesenteric Artery Syndrome A Case Report. *American Journal of Gastroenterology* 100():p S200, September 2005.
7. Wan S, Zhang L, Yang J, Gao X, Wang X. Superior Mesenteric Artery Syndrome Improved by Enteral Nutritional Therapy:

A Retrospective Case-Series Study in a Single Institution. *Ann Nutr Metab*. 2020 Apr 1;76(1):37–43.

8. Merrett ND, Wilson RB, Cosman P, Biankin A. Superior mesenteric artery syndrome: Diagnosis and treatment strategies. *Journal of Gastrointestinal Surgery*. 2009 Feb;13(2):287–92.

FIGURE LEGENDS:

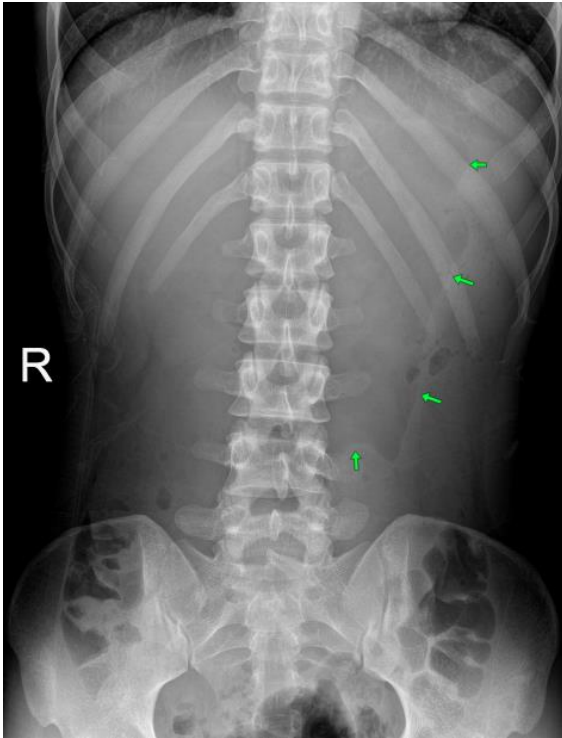


Figure 1: Supine abdominal radiograph showing gross dilatation of the gastric cavity (green arrows) extending to the central abdomen. No evidence of small and large bowel dilatation. No features of pneumoperitoneum.

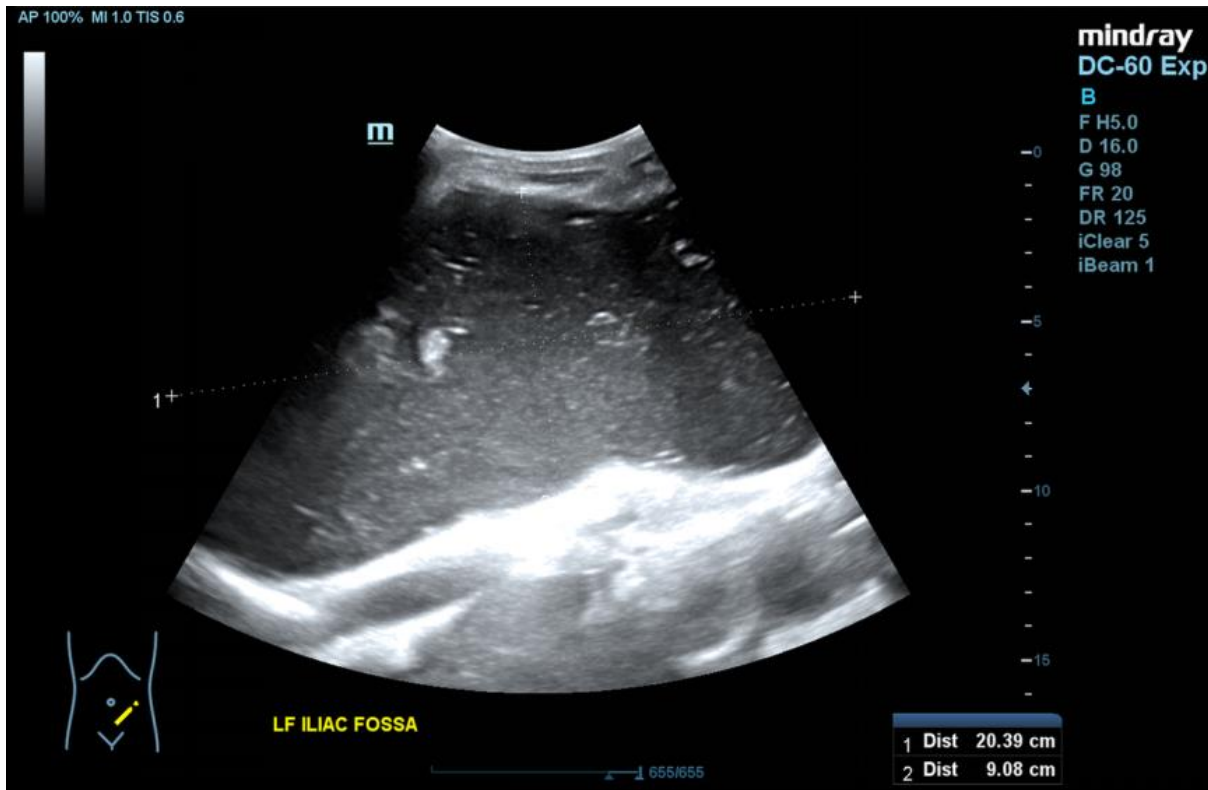


Figure 2: Abdomen ultrasound image showing dilated gastric cavity, which is fluid-filled, extending to just above the left iliac fossa.

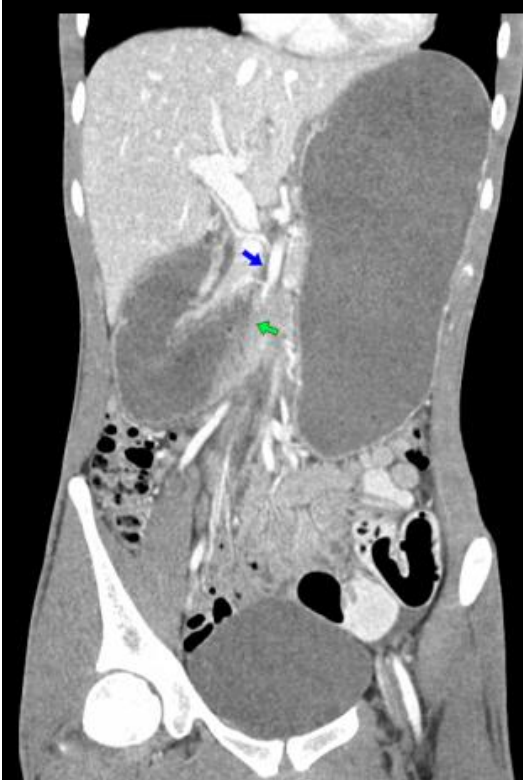


Figure 3: Coronal CT images showing grossly dilated gastric cavity and proximal duodenum. The transition point (green arrow) is at the origin of the SMA (blue arrow) from the aorta.

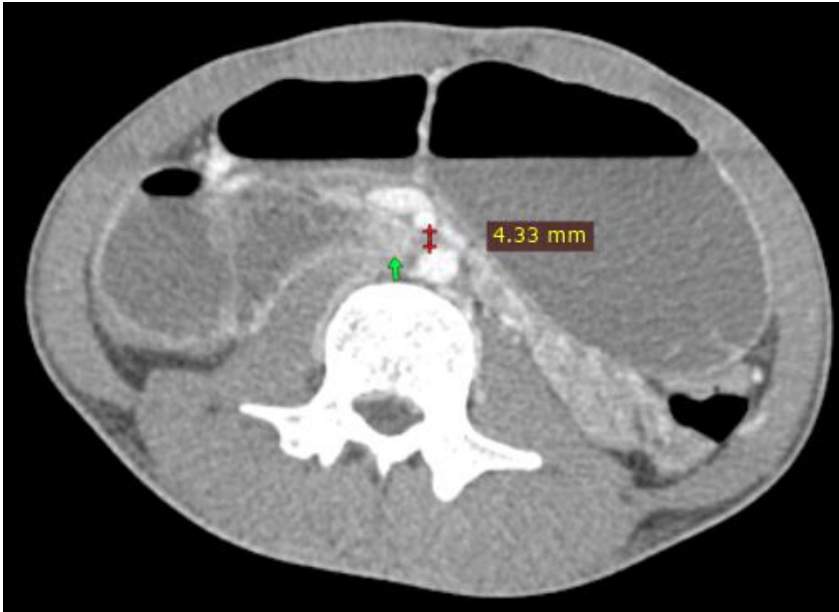


Figure 4: Axial CT image showing abrupt tapering of the third part of the duodenum (green arrow) as it passes between the SMA and the aorta. The aorto-mesenteric distance is reduced, measuring 4mm.



Figure 5: Sagittal CT image showing a narrowed aorto-mesenteric angle of 15 degrees.

APCB's Abstracts 1

9th Asian Pacific Congress on Bronchology and Interventional Pulmonology

DOI: <https://doi.org/10.32896/tij.v3n2.10-15>

Published: 30.06.2023

OP01**ROLE OF ULTRASONOGRAPHY IN THE ASSESSMENT OF PULMONARY FIBROSIS IN ILD AND ITS CORRELATION WITH HRCT AND CRYOBIOPSY**R. 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>

APCB's Abstracts 2

9th Asian Pacific Congress on Bronchology and Interventional Pulmonology

DOI: <https://doi.org/10.32896/tij.v3n2.16-21>

Published: 30.06.2023

EP01**LARGEST CASE SERIES OF FLEXIBLE BRONCHOSCOPY
REMOVAL OF ASPIRATED SCARF PINS**S.S Kalagiri¹, S. Ahmed², S. Tahura³, H.K. Gonuguntla¹, P.V. Belgundi¹¹Yashoda Hospitals, India²CairoUniversity, Egypt³Square Hospitals, Bangladesh**Background**

Foreign body aspiration (FBA) presents a constant risk in both pediatric and adult population. Most common aspirated foreign bodies are organic in nature. However, women who wear headscarf are at risk of aspirating the scarf pin while securing the veil when the scarf pin is held in the mouth. Traditionally rigid bronchoscopy was used to extract the aspirated scarf pin. However flexible bronchoscopy is being more commonly used for extraction. We present the largest multicenter experience with flexible bronchoscopy.

Methods

This was a retrospective observational study from previous records, from three centers of Egypt, Bangladesh and India. Patients in whom scarf pin was aspirated and extracted using flexible bronchoscopy were included. Demographic profile, symptoms and radiological findings were collected. Details of bronchoscope and accessories used for retrieval, anesthesia, location of pin, complications and failure rate were noted.

Results

105 patients were included in the study. Most common symptom was cough in 81 patients (77.14%). 93 (88.57%) patients remembered aspiration event. 79 (76%) patients underwent bronchoscopy within 7 days of aspiration. Bronchoscopy was done under local anesthesia in 60 (57.1%) patients and general anesthesia in 45 (42.8%) patients. Scarf pin was found in Right [44 (41.9%)] and Left bronchi [44 (41.9%)] equally, which is a peculiar finding in the study. Multiple scarf pins were observed in 4 cases. Of 105 patients, 11 patients had unsuccessful rigid bronchoscopy retrieval and subsequently all underwent successful flexible bronchoscopy retrieval. Balloon and Forceps were used for retrieval. No major complications were observed. Most common complication was slippage of pin during retrieval.

Conclusion

Rigid bronchoscopy is considered to be a standard procedure for retrieval of most foreign bodies, including scarf pin. But in this study, flexible bronchoscopy has been successful in scarf pin retrieval and shown to be a good alternative to rigid bronchoscopy.

EP02

TO COMPARE THE EFFICACY AND DIAGNOSTIC YIELD OF BRONCHOSCOPIC BIOPSY USING CONVENTIONAL FORCEPS VERSUS 1.1MM CRYOPROBE IN CENTRAL AIRWAY LESIONR. Rabari¹, T. Joseph², A.G. Vallonthaiel³^{1,2}Department of Pulmonary Medicine Amrita Institute of Medical science, Kochi³Department of Pathology Amrita Institute of Medical science, Kochi**Background**

This study aimed to evaluate the efficacy and diagnostic yield of a bronchoscopic biopsy using conventional forceps versus 1.1mm flexible cryoprobe in central airway lesion.

Methods

All Patients with suspected central airway lesions were enrolled. Conventional Forceps biopsies and 1.1mm flexible cryo probe biopsy were done in the same patient and same setting under conscious sedation. Primary objective was to compare diagnostic yield of both biopsy samples. Secondary objective were to compare size, number of specimen required to get adequate diagnosis, tissue architecture and complications.

Results

In this study we enrolled total 30 patients with central airway lesions. Diagnostic yield of 1.1mm flexible cryo probe biopsy was significantly higher than forceps biopsy 96.66% versus 78%. ($p = 0.001$). Size of Samples obtained was larger in cryobiopsy in compare to forceps biopsy. Tissue architecture was preserved better in cryobiopsy sample in compare to forceps biopsy sample. Mild bleeding was reported in both techniques with no statistical significance ($p = 0.063$, $p = 0.5$).

Conclusion

1.1mm cryoprobe biopsy represents a safe and effective tool to obtain adequate tissue samples of a good quality with higher diagnostic yield in comparison to standard forceps samples in central airway lesions. To achieve the diagnostic yield in central airway lesion one 1.1mm cryobiopsy sample was statically significant in comparison to three conventional forceps biopsies. And 1.1mm flexible cryoprobe biopsy also reduce the total duration of bronchoscopic procedure in compare to conventional Forceps biopsies.

PREDICTIVE RISK FACTORS FOR PNEUMOTHORAX AFTER FLUOROSCOPIC GUIDED TRANSBRONCHIAL LUNG BIOPSY

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Background

The pulmonologist routinely performs fluoroscopic guided transbronchial lung biopsy (FG-TBLB) via bronchoscopy to obtain the tissue diagnosis. Knowing the risk factor of FG-TBLB-related pneumothorax might guide the operator in preparing for this complication.

Methods

We retrospectively analysed data from 157 patients who underwent FG-TBLB. The primary outcome was procedure-related pneumothorax. We evaluated the following risk factors for pneumothorax after FG-TBLB: patient characteristics, location of biopsy, number of biopsies and computed tomography pattern. Univariate and multivariate logistic regression analyses were performed.

Results

One-hundred fifty-seven patients were included (mean age 57.9±16.2 years; 60.5% male). The most common location for FG-TBLB was the right upper lobe (45, 28.7%), followed by the right lower lobe (42, 26.8%), left upper lobe (27, 17.2%), left lower lobe (21, 13.4%), right middle lobe (14, 8.9%) and lingula (8, 5.1%). The mean (±SD) of the biopsy sample taken was 6.7 (2.1). Radiographic evidence of pneumothorax was reported in 12 (7.6%) patients. Eleven (91.7%) pneumothorax required intercostal chest tube intervention (mean air leak time: 5.7 days). One has persistent air leak and requires autologous blood patch pleurodesis. None of the patients experienced pneumothorax recurrence. With univariate analysis, factors independently predisposed to pneumothorax were male gender and upper lobes location of the biopsy. In the multivariable analysis, the risk of pneumothorax was significantly higher for biopsies obtained from the upper lobes (OR 0.120; 95% CI 0.015 – 0.963; p = 0.046).

Conclusion

The overall rate of pneumothorax is low. Clinicians should be aware of the increased risk of pneumothorax when performing the FG-TBLB in the upper pulmonary lobes. The procedure should be adequately planned and prepared to manage the possibility of pneumothorax post-biopsy.

THE EFFICACY OF BRONCHIAL WASHING AND BRONCHOALVEOLAR LAVAGE IN SUSPECTED PULMONARY TUBERCULOSIS IN ASIAN POPULATION

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Background

A controversy of superiority of methods, bronchoalveolar lavage (BAL) and bronchial washing (BW) in diagnosis of Tuberculosis (TB) is due to limited data and study. Hence, the study aims to investigate the efficacy of bronchoscopy methods in suspected Pulmonary Tuberculosis (TB).

Methods

A retrospective study with a total of 70 patients were screened and collected from June 2022 until December 2022 Outcome is defined as a safety profile (hypoxia, perforation, bleeding), TB yield (Mycobacterium TB culture, TB direct smear, TB Gene Xpert®, TB PCR) and risk associated (demographic, comorbidity, clinical symptoms). $p < 0.05$ is determine as significance.

Results

A total of 16 patients identified as confirmed TB. The study reported no significant difference in BAL and BW in terms of TB yield and safety profile. A multivariate analysis was done in multiple models of analysis (sociodemographic, comorbidity, clinical symptoms, TB yield and safety profile) with bronchoscopy technique, however there were no significant relation were reported.

Conclusion

Study shows no difference in outcome with method of bronchoscopy. However, multifactorial cause that leads to the outcome should be considered i.e., operator bias, laboratory management, handling and technique. Therefore, a multicenter with randomization study should be done for better outcome.

BRONCHOSCOPIC MANAGEMENT OF PEDIATRIC BENIGN TRACHEO-BRONCHIAL STENOSIS: A RETROSPECTIVE STUDY

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Background

Pediatric benign tracheo-bronchial stenosis are relatively rare, but are associated with significant morbidity and mortality. The etiology of benign tracheo-bronchial stenosis includes congenital, post-intubation, post-tracheostomy, trauma, inhalational injury, tuberculosis and other infections, autoimmune disorders, inflammatory airway diseases, chronic impacted foreign bodies etc. Many of these cases may require surgical treatment. However, some of them can be effectively managed by bronchoscopic treatment. Bronchoscopic management of adult tracheo-bronchial stenosis has been well described in the literature. However, there are very few publications regarding bronchoscopic management of pediatric tracheo-bronchial stenosis. Hence, we are presenting our experience of bronchoscopic management of these cases.

Methods

This is a retrospective study at a tertiary care hospital in India. Total 58 patients (of all age groups) with benign tracheo-bronchial stenosis due to various causes were treated in our department between 1st January 2018 to 31st December 2022. Out of these, 9 patients were of pediatric age group. The age of the patients in this subgroup (in our study) was between 3.5 to 15 years, of which there were 7 males and 2 females.

Among the pediatric cases, 6 patients were treated using both rigid and flexible bronchoscopes while 3 patients were treated using only flexible bronchoscope. We used electrocautery, holmium laser, CRE balloons, vascular balloons, bronchoscopic forceps and the bevel of the rigid bronchoscope for dilatation of tracheal and/or bronchial stenosis. We were able to successfully complete the procedure in all cases.

Results

All patients with pediatric tracheo-bronchial stenosis could be successfully treated by bronchoscopic interventions. No major complications were seen during or post-procedure (except transient hypoxia and minor bleeding).

Conclusion

Our study suggests that pediatric trachea-bronchial stenosis can be effectively managed in many cases by bronchoscopic interventions. Larger studies are needed to define its definitive role in these patients.

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9th Asian Pacific Congress on Bronchology and Interventional Pulmonology

DOI: <https://doi.org/10.32896/tij.v3n2.22-27>

Published: 30.06.2023

EP06**FLEXIBLE BRONCHOSCOPY FOR THE EXTRACTION OF ASPIRATED STRAIGHT PIN IN CHILDREN**P.R.V. Najoan¹, M.R. Jasin¹, W. Indawati¹¹Respirology Division, Department of Pediatrics, Medical Faculty of Indonesia University, Cipto Mangunkusumo Hospital, Jakarta**Background**

Straight pin aspiration, as a type of foreign body aspiration (FBA), is especially prevalent in Islamic countries such as Indonesia due to its common use of headscarf and straight pin as fixation. Extraction of aspirated straight pin can be performed either by rigid or flexible fiberoptic bronchoscopy, depending on the foreign body location and practice patterns. This study aimed to describe between extraction procedures and complications of straight pin aspiration removal in children.

Methods

A retrospective study was conducted on 17 children cases of straight pin aspiration in Cipto Mangunkusumo Hospital between January 2018 and December 2022, who underwent rigid bronchoscopy and flexible bronchoscopy. Chi-square analysis was performed to analyze association between FBA extraction procedures and complications.

Results

In this study, 6 out of 17 (35,3%) aspirated straight pin were successfully extracted under rigid bronchoscopy. Flexible bronchoscopy was performed in 11 patients (64,7%), with 2 of them failed due to its lower site of impaction. Thoracotomy procedure was then performed and succeeded in the remaining 2 patients. Most common location of impaction were in left main bronchus (n=7, 41.2%) and left lower lobe bronchus (n=5, 29.4%). Complications were reported in 14 patients (82.4%), with laceration as the most common complication (n=8; 47.1%), without any serious or fatal complications. Study analysis found no correlation between flexible bronchoscopy and other procedures on higher rate of complications, with laceration (p=0.430), edema (p=0.087), bleeding (p=0.773), hyperemia (p=0.080), and granulation (p=1.000).

Conclusion

Flexible bronchoscopy is a safe extraction procedure of aspirated straight pin, with high success rate and no increased risk for complications.

OUTCOMES OF SLIDE TRACHEOPLASTY IN CONGENITAL TRACHEAL STENOSIS: A 10-YEAR EXPERIENCE

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Background

Congenital tracheal stenosis (CTS) is a rare condition but carries detrimental effect. Slide tracheoplasty is currently the gold standard treatment for CTS but little is known about the postoperative outcome.

Methods

This is a retrospective observational study of CTS patients associated with congenital heart defect underwent surgical intervention between February 2013 until February 2023 in Hospital Serdang. Patients' demographic data, radiological images, echocardiography and bronchoscopy findings, peri-operative conditions, operative details and outcomes were collected from the medical records. Our primary objective is to determine the mortality and re-stenosis rate. The secondary objective is to review the patients' characteristics and the postoperative ventilation support.

Results

50% were boys (n=10) and mean age was 9.8 months (range: 3 days - 4 years old). Half of the patients were syndromic, 3 with Down syndrome and 2 with VACTERL association. 30% (3/10) were born premature. Pre-operatively, 50% (5/10) were on invasive ventilation and 40% (4/10) on non-invasive ventilation. 60% (6/10) had long segment tracheal stenosis. All patients had cardiac surgery at the same setting of slide tracheoplasty. Our mortality rate is 20% (2/10) and 30% (3/10) had re-stenosis required dilatation procedure. Postoperatively, 30% (3/10) required home Bilevel Positive Air Pressure (Bi-PAP), 30% (3/10) were on Continuous Positive Airway Pressure and 10% (1/10) required tracheostomy with invasive ventilation. Only 10% (1/10) did not require any ventilation support pre- and post-operatively. Those who had poor outcome were born prematurely, weight \leq 3 kg at surgery and required multiple tracheal dilatations.

Conclusion

Slide tracheoplasty has a promising outcome for CTS patients. Our mortality rate is comparable with previous studies. Patients with good outcome were those born at term, good weight at surgery and no re-stenosis occurrence. The success of slide tracheoplasty requires multidisciplinary team effort with optimum post-operative care.

FRONTIERS IN MANAGING BENIGN CENTRAL AIRWAY STENOSIS: THE FIRST CASE OF BIODEGRADABLE AIRWAY STENT IN ASIA

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Background

Airway stents are crucial devices that help keep the airway open in patients with tracheobronchial stenosis. Despite advancements in stent technology, an ideal airway stent has not been developed. However, biodegradable (BD) stents made of polydioxanone have shown promise in recent developments. These stents disintegrate naturally in the airway within 3 to 4 months after implantation, eliminating the need for removal. They retain sufficient mechanical strength for up to 6 weeks and gradually degrade until complete degradation approximately 15 weeks after implantation, making them a promising solution for airway stenting.

Case Report

Two cases of non-malignant post-Tuberculosis airway stenosis were successfully treated using tracheal and bronchial BD stents. Through a thorough and collaborative evaluation by a multidisciplinary team, it was determined that the persistent airway narrowing, despite multiple balloon dilatations with Mitomycin applications, required stent insertion due to unfeasibility of surgical intervention. The stent placement was necessary to achieve durable and significant improvement in patients' airway patency. Rigid bronchoscopy was utilized for the stent implantation, followed by regular surveillance bronchoscopy. No complications were encountered during the procedure. Both patient experienced improvement in their symptoms following the stent placement.

Conclusion

BD stents are a novel type of tracheobronchial support device used for treating benign airway stenosis. Although their effectiveness has not been fully studied, they can induce inflammation and mucosal hypertrophy, which can help stabilize malacic airways. BD stents are usually considered when other options are not available as they can prevent the need for multiple procedures, unlike silicone stenting which requires stent removal. However, there is a possibility of requiring repeat procedures like re-stenting if restenosis occurs after BD stent degradation. BD stents offer a promising alternative to traditional silicone and metal stents, but further research is necessary to confirm their efficacy.

THE RELATIONSHIP BETWEEN RADIATION EXPOSURE AND THE EXPOSURE REDUCTION EFFECT OF THE PROTECTIVE GLASSES DURING BRONCHOSCOPY USING A C-ARM X-RAY FLUOROSCOPY SYSTEM

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Background

In 2019, the Ministry of Health, Labor, and Welfare (Japan) established the new standard for the equivalent dose limits of radiation exposure to the lens of the eye from previous 150 mSv/year or less to 20 mSv/year or less on average for 5 years and 50 mSv or less each year.

Methods

We performed diagnostic bronchoscopy for peripheral lung lesions using a C-arm fluoroscopy system (VersiFlex Apla®). The operator and assistant wore radiation protective glasses (FG50-770®), and fluorescent glass dosimeters (GD-352M®) were placed inside and outside the glasses to measure radiation dose during bronchoscopy. Performing transbronchial biopsy, the C-arm was rotated so that the incidence angle of fluoroscopy was perpendicular to the direction of biopsy forceps. We examined the exposure reduction effect of protective glasses and the relationship between the rotation angle of the C-arm and the radiation exposure.

Results

Forty-six cases were included. The mean lesion diameter was 28.7 mm, the mean fluoroscopy time was 9.1 minutes, and the mean radiation dose was 53.5/23.8Gy (outside/inside the glasses) to the operator and 26.2/12.9Gy to the assistant. The radiation dose to the operator was significantly higher in the group with C-arm rotation than in the group without rotation (33/13 cases, average 120.2/27.2Gy, $p < 0.05$). Furthermore, the larger the rotation angle, the higher the radiation dose ($p < 0.05$). Assuming that the operator and the assistant were in charge of 100 bronchoscopies each in our department, the estimated annual equivalent dose would be 12.7/5.9 mSv (outside/inside of protective glasses).

Conclusion

Wearing protective glasses can reduce lens exposure under fluoroscopy in half, and the glasses are considered important, especially when the C-arm is rotated.

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9th Asian Pacific Congress on Bronchology and Interventional Pulmonology

DOI: <https://doi.org/10.32896/tij.v3n2.28-35>

Published: 30.06.2023

EP10**SUBGLOTTIC STENOSIS IN CHILDREN: SERIAL CASES OF CHILDREN UNDER 2 YEARS OLD**R. Fauzie¹, M.A Tirtosudiro², H.M. Nataprawira²¹ Harapan Kita National Women and Children Health Center / Department of Child Health, Jakarta² Hasan Sadikin General Hospital/ Department of Child Health, Faculty of Medicine, Universitas Padjadjaran, Bandung**Background**

The most common cause of acquired Subglottic Stenosis (SGS), narrowing of the subglottic, is prolonged endotracheal intubation. Respiratory distress accompanied by biphasic stridor in children with history of endotracheal intubation should prompt investigation for SGS. We present two SGS cases of children treated by trans-bronchoscopy laser cauterization combined with balloon dilatation with good result.

Case Report**Case 1**

A 21-month-old child, presented with respiratory distress, difficulty in feeding, and biphasic stridor. The child had a history of 2 weeks of endotracheal intubation. The patient then developed complaints in 2 weeks. Physical examination showed tachypnea, decreased room air oxygen saturation, chest retractions, with biphasic stridor. No abnormality showed in the laboratory nor radiological examination. Flexible bronchoscopy (FB) evaluation showed grade III (70%) Myers-Cotton obstruction. Laser cauterization followed by balloon dilatation was performed. The patient showed no recurrency.

Case 2

A 19-month-old child with a history of 2 weeks endotracheal intubation, developed biphasic stridor in a week after, followed by gradually increasing respiratory distress. The patient was admitted 8 times in different hospitals within the next 2 months. The patient was admitted to our hospital, and on physical examination showed similar complaints as in the first case. No abnormality was shown on laboratory and radiological examination. FB evaluation showed grade III (90%) Myers-Cotton obstruction. Laser cauterization followed by balloon dilatation was performed, no recurrency was documented.

Conclusion

Children with stridor and history suspicious of SGS should prompt immediate investigation. Trans-bronchoscopy laser cauterization followed by balloon dilatation showed good result with no recurrency documented.

BRONCHOSCOPIC MANAGEMENT OF MALIGNANT DISTAL AIRWAY OBSTRUCTION WITH SELF EXPANDING METALLIC Y STENTS – CASE SERIES

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Background

Central airway obstruction caused by malignancy is an emergency indication for deploying the tracheal stents. Distal airway obstruction at the level of carina associated with right and left main bronchus narrowing is managed by deploying Y SEMS. In this case series we discuss about 4 patients who presented with acute breathlessness with stridor and utility of fully Y SEMS in managing the patients.

Case Report

Case 1: 65/M case of CA lung with Grade 4 mMRC and stridor, k/c/o COPD and post covid. Bronchoscopic evaluation: infiltration of the tumor in distal end of trachea with 90% luminal narrowing and complete obstruction of the left main bronchus. Rigid bronchoscopy guided tumor debulking done with electrosurgical procedures and Self expanding Y SEMS deployment done. He was extubated post procedure, had immediate symptomatic relief and managed with Nebulized bronchodilator in view of COPD and post covid lung. **Case 2:** 40/F case of CA cervix treated 5 years back presented with stridor, HRCT thorax: enlarged subcarinal node compressing the carina. Bronchoscopy : extrinsic compression in the carina with 80% luminal narrowing of the right and left main bronchus. Self expanding Y SEMS deployment done, patient had immediate symptomatic relief. **Case 3 and Case 4:** CA esophagus with extrinsic compression in the posterior wall and infiltration of trachea. bronchoscopy :endoluminal obstruction with TEF. Emergency Y SEMS deployment done. All patients extubated on table with immediate symptomatic improvement. The common complication faced in the fully covered Y SEMS are increased secretion, granulation tissue in distal end of stent. Median survival of patients: (30-150 Days), with No immediate procedure related mortality.

Conclusion

Distal central airway obstruction are emergency conditions where achieving the luminal patency and maintaining the airway when there is significant extrinsic compression helps to take up the patient for Palliative RT and chemotherapy by improving the performance status. Common complications like increased secretions and formation of distal granulation tissue can be managed by surveillance

bronchoscopy and nebulized mucolytics and expectorants. Fully covered Y SEMS can be deployed with rigid bronchoscopy guided / through LMA by fluoroscopy guidance as emergency procedure which will have significant symptomatic benefit.

NEBULIZED CIPROFLOXACIN/DEXAMETHASONE (CD) IN CONGENITAL TRACHEAL STENOSIS POST SLIDE TRACHEOPLASTY

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Background

Tracheobronchial obstruction by granulation tissue can compromise the postoperative course in airway interventions. The use of inhaled CD has been described to decrease granulation tissue at the surgical site. The combination of Ciprofloxacin and Dexamethasone decreases the bacterial load and inflammatory response leading to reduction in granulation tissue formation. The purpose of this case reports is to illustrate the outcome of tracheoplasty with and without using postoperative nebulized CD.

Case Report

We report 3 cases of congenital tracheal stenosis post tracheoplasty with and without using nebulized CD.

Case 1 is a 3-month-old girl with congenital tracheobronchial stenosis who had undergone slide tracheoplasty at 2 months old. Postoperatively she was not given nebulized CD and bronchoscopy findings showed granulation tissues at tracheal surgical site. She was ventilated for 4 weeks and NIV dependent until now.

Case 2 is a 2-year-7-month-old boy with left pulmonary sling with congenital tracheal stenosis post slide tracheoplasty with concomitant repair of the vascular ring. Nebulized CD was given postoperatively for a total of 5 days. Repeat bronchoscopy post treatment showed very minimal granulation tissue. He was discharged at day 9 postoperatively without any respiratory support.

Case 3 is a 14-month-old boy with PDA and ASD in failure and tracheal stenosis with distal tracheomalacia post slide tracheoplasty and cardiac repair. Day 5 post-operative bronchoscopy revealed the surgical site exposed to nebulized CD had minimal granulation tissue compared to the unexposed surgical site stented by ETT. He was on nebulized CD until 2 weeks postoperatively and successfully weaned off from non-invasive support.

Conclusion

This is the first case report to describe the use of nebulized CD in our setting. Our cases demonstrate reportable data on its effectiveness post slide tracheoplasty. A randomized controlled study is warranted to describe its clinical benefits.

EXPERIENCE WITH DRY MEDICAL THORACOSCOPY VIA VERESS NEEDLE: A CASE SERIES ANALYSIS

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Background

The diagnostic yield of challenging pleural biopsies has improved leaps and bounds with the advent of medical thoracoscopy (MT). However, MT cannot be performed safely in a subset of patients with minimal to no pleural effusion. This has led to the emergence of dry MT via various instruments including Veress needle, which is traditionally used to induce pneumoperitoneum prior to laparoscopic surgeries.

Case Series

Case-1

A 66-year-old housewife presented with a 2-month history of lower back pain. Computed tomography (CT) showed multilevel vertebral metastatic lesions and a left upper lobe lung mass. Biopsy of lung and vertebral lesions were deemed unsuitable due to injury risks to adjacent neurovascular structures. Bedside thoracic ultrasound (TUS) confirmed lung sliding sign with minimal effusion. A Veress needle was introduced into pleural space and insufflated with 200mL of air prior to performing MT. Multiple nodules were visualized on parietal pleura with biopsy samples confirming metastatic lung adenocarcinoma (EGFR mutation positive). She was commenced on gefitinib by oncology.

Case-2

A 70-year-old gentleman with history of resected sigmoid colon adenocarcinoma was referred for a right upper lobe lung mass, incidentally noted during CT surveillance. Bedside TUS showed sliding sign with minimal effusion. MT was successfully performed after Veress needle insertion followed by air insufflation. Pleural biopsy samples showed evidence of metastatic lung adenocarcinoma. He was promptly referred to oncology for chemotherapy.

Case-3

A 76-year-old gentleman with history of prostate cancer presented with dyspnoea. CT showed a right pleural based lesion with minimal pleural effusion. He successfully underwent MT after induction of pneumothorax with Veress needle. Biopsy results are pending at the time of writing.

Conclusion

Our early experience confirmed Veress needle MT as a relatively easy and safe modality for access to previously challenging pleural pathologies. We hope that this technique will allow earlier disease detection, better diagnostic yield, and ultimately better patient outcome.

