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Case Report

Left Sided Aspiration Pneumonia

Ji Hye Lim[1], Gauri Gogna[1], Peter Stride[2]

[1]*Medical Registrar, Queen Elizabeth II Jubilee Hospital, Brisbane, Australia*

[2]*Consultant Physician, Queen Elizabeth II Jubilee Hospital, Brisbane, Australia*

**Corresponding author: Dr. Peter Stride, Consultant Physician,MB BS (Lond), MRCP (UK), FRACP,FRCPEdin, FRCP, D.Med(Research)UQ, Senior Lecturer, University of Queensland School of Medicine, 23 Aland St, avell Heights, Brisbane, Queensland 4012, Australia,*

Tel: 07-32567980; Email: pjostride@gmail.com

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The usual presentation of aspiration pneumonia in the right lower lobe is predicated by the anatomy of the bronchial tree. The left main bronchus is 60° from the vertical plane, being displaced superiorly by the heart, while the right main bronchus is only 30° from the vertical; therefore aspiration is more common down the right side [1].

We present an unusual but logical case where aspiration into the left lower lobe occurs in the presence of situs inversus totalis, a congenital condition found in 0.01% of the population [2]. Placement in the right lateral position in the presence of situs inversus may be more appropriate to protect the airway than the time-hallowed traditional left lateral position for all patients with a reduced conscious level.

Clinical Features

A 68 year-old woman was admitted with sudden onset of dyspnoea, cough, rigors, hypoxia and pyrexia of 39°C immediately following an elective colonoscopy for cancer surveillance. She had a background medical history of situs inversus totalis, β thalassemia minor, obstructive sleep apnoea and hypertension. Prior to her procedure she was appropriately fasted and the recommended bowel preparation procedures followed. She was placed in the left lateral decubitus position for the examination, and sedated. During the procedure, there were no alarming signs of aspiration, and her vitals remained stable.

At presentation she was tachypnoeic, tachycardic, febrile and hypoxic. Auscultation of the left lung showed reduced air entry with rales and rhonchi over the left lower lobe region. Her investigations revealed a white cell count of 14.6 x109/L (RR 4-11) with a neutrophil count of 11.65x109/L. CRP was elevated at 60mg/L (RR<5), and Hb reduced at 95g/L (RR 115-160). Blood cultures and sputum samples were obtained for microbiological assessment but subsequently no significant pathogens isolated.

Her chest X-Ray (figure 1 and figure 2) showed dextrocardia with complete situs inversus, and patchy air space opacity though the left mid and lower zones. This x-ray, with her clinical features, was compatible with the diagnosis of aspiration pneumonia in the left lower lobe of the lung. **Figu**-ray.

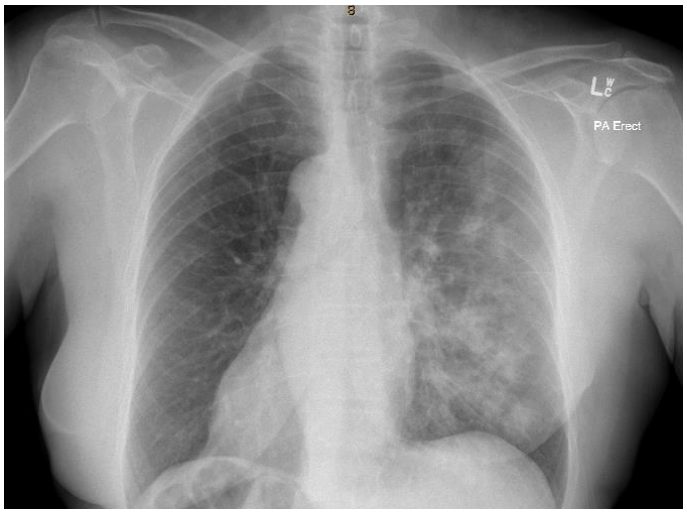

Figure1. PA erect chest x-ray.

Figure 2. Lateral chest x-ray.

She was commenced on supplemental oxygen, and intravenous broad spectrum antibiotics. She responded well to these interventions, and was discharged with no further complication.

Discussion

This patient presented with left sided aspiration pneumonia. There are two possible explanations for her 'left sided' aspiration pneumonia. First, her unique anatomy makes the left lung more susceptible to aspiration [3]. Secondly, the position of the patient during the colonoscopy and the fact that the examination was done under sedation [4].

Situs inversus totalis describes an anatomical malposition with left-to-right reversal of the viscera combined with dextrocardia. The pulmonary anatomy is also reversed with a wide and short, steeply descending left bronchus and a long and more narrow, more horizontally descending right bronchus. The left lung has three lobes and the right lung has two lobes, and accommodates the heart [3]. The anatomy of the left bronchus mirrors that of the normal right bronchus and therefore is more vertical. This predisposes the left side to aspiration [3].

As well as her anatomy, this patient's gag reflex was suppressed as a result of the sedation. Aspiration pneumonia is a well-known complication following colonoscopy with anaesthesia assistance [4,5]. Sedative agents may cause the loss of protective airway reflexes and therefore potentially induce pulmonary aspiration of gastric contents [6,7].

In addition, the location of aspiration pneumonia is affected by the position the patient is in when the aspiration occurs. In general, the right middle and lower lobes are more predisposed to aspiration pneumonia due to the larger calibre and more vertical orientation of the right main bronchus. However, if the patient is standing up at the time of aspiration the aspiration can affect both lower lung lobes equally. Similarly, patients lying in the left lateral decubitus position are more likely to have left sided infiltrates when they aspirate [1,8].

Conclusion

The presentation of aspiration pneumonia is fairly common. However, this is a case of the common meeting the unusual, we would suggest firstly that patients with situs inversus totalis are predisposed to left sided aspiration by their anatomy, and secondly that placement in the right lateral position may be more appropriate to protect the airway than the traditional left lateral position for all patients with impaired cognition.

References

1. Marom EM, McAdams HP, Erasmus JJ, Goodman PC. The many faces of pulmonary aspiration.1999, 172(1): 121-128.

2. Cotran RS, Kumar V, Robbins SL. Robbins Pathologic Basis of Disease. 4th ed. Philadelphia, 1989.

3. Tobias D, Bruce AR. Heart-Lung Transplantation In Situs Inversus Totalis. 2009, 88(3): 1002-1003.

4 . Nam OO, Jang JS, Noh MH, Park JI, Kim HJ et al. A Case of Aspiration Pneumonia after Upper Gastrointestinal Endoscopy. 2014, 14(30): 215-218.

5. Cooper GS, Kou TD, Rex DK. Complications Following Colonoscopy with Anesthesia Assistance: A Population-Based Analysis. 2013, 173(7): 551-556.

6 . Ng A, Smith G. Gastroesophageal reflux and aspiration of gastric contents in anaesthetic practice. 2001, 93(2): 494-513.

7. Friedrich K, Beck S, Stremmel W, Sieg A, BNG study group. Respiratory Complications in Outpatient Endoscopy with Endoscopist-Directed Sedation. 2014, 23(3): 255-259.

8. Prout BJ, Metreweli C. Pulmonary Aspiration after Fibre-endoscopy of the Upper Gastrointestinal Tract. 1972, 4(5835): 269-271.