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Case Series

Unusual neck swellings: a case series of a new Pandora's box

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ABSTRACT

The neck is an important region in the body containing the greatest number of vital structures traversing it. The variety of structures also means that many varied neck masses may present in this region. We described a series of eight such cases of large and rare neck swellings. These include cystic swellings, benign tumours as well as malignant secondary nodal metastasis. We also describe for the first time a rare case of a large air pocket in the neck. Thus, this series serves to highlight the amazing capability of the neck to throw up a wide range of complex and rare swellings - earning its name as a new Pandora's box.

Keywords: Neck swellings, Pandora's box, Rare masses

INTRODUCTION

Greek mythology propagates the tale of the god Zeus, who gave a mortal named Pandora a box and instructed her never to use it. The box was said to contain a variety of characteristics of the human spirit. Pandora, being unable to control her curiosity, opened the box, and this released these traits into the world. Henceforth, the term Pandora's box has come to symbolize the multiple possibilities and unknown nature of things. This term is used in medical practice to describe masses of the abdomen, which are numerous in their organ of origin and presentation.[1] We propose that neck swellings are a new age pandora's box, revealing diagnoses from a myriad of structures. Here we present a series of eight cases with usual diagnoses of general large neck swellings.

CASE SERIES

Case 1

This 80-year-old homeless gentleman was brought to our OPD with a massive swelling in the neck's anterior aspect, which he had neglected. The patient then developed stridor on lying supine and expressed difficulty in his daily activities. On examination, a large 20×10 cm butterfly-shaped midline swelling was appreciated, which displaced the carotid laterally and was irregular in surface, well-defined and hard in consistency (Figure 1).

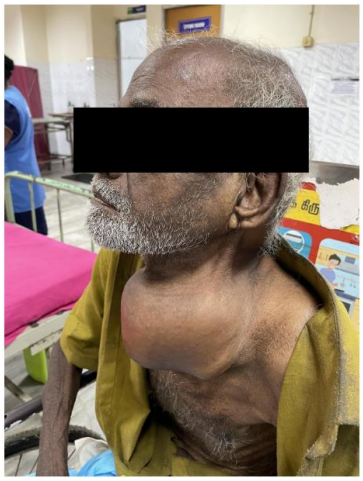

Figure 1: Large butterfly-shaped midline swelling-probably a malignant thyroid swelling.

Bilateral carotids were also laterally displaced. This led us to a clinical suspicion of a large, probably malignant thyroid. Contrast-enhanced CT of the neck was down which showed a large bilaterally involved thyroid swelling with no nodes. A FNAC was taken which revealed anaplastic carcinoma of the thyroid. The patient was planned for total thyroidectomy with tracheotomy placement anticipating laryngomalacia. Unfortunately, the patient succumbed to aspiration before the procedure.

Case 2

Another 45-year-old, otherwise healthy male with no comorbidities, presented with a swelling in the upper part of the neck for 6 months. The swelling had been progressive and not painful. He does not complain of difficulty in breathing or swallowing. On examination, a hard fixed 15×15 cm swelling with bony hard consistency was noted. It had a smooth surface and was well-defined but was immobile. The swelling appeared on examination to be arising from the jaw. However, a CT of the head and neck revealed this to be a tumour from the Hyoid bone. A diagnosis of giant cell tumour (GCT) of the mandible was confirmed on histopathology and patient was treated with resection of the tumour along with hyoidectomy. He is well on post-operative follow-up.

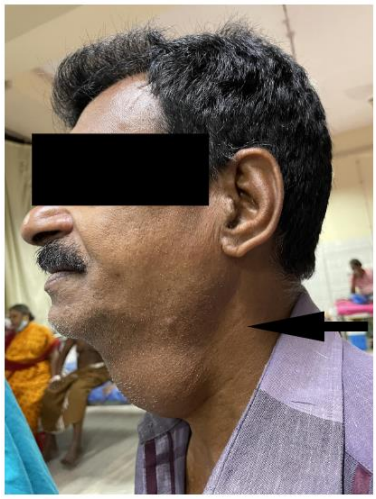

Figure 2: Midline neck swelling, hard in consistency-GCT of the hyoid.

Case 3

A 60-year-old gentleman presents to our hospital with a history of progressively increasing swelling in the right side of the neck over the last five months. He claims the swelling was initially small in size but has rapidly progressed to attain the present size, occupying the entire right side of the neck. The swelling was initially painless, but he currently feels a mild pricking type of pain over the swelling. In addition, he complained of dysphagia, which developed over the past month. On examination, the swelling revealed itself to be a single large and hard swelling, which was immobile. The swelling overall was 18×12 cm and occupied the entire right side of the neck and extended up to the right cheek and earlobe (Figure 3). This brought up the clinical suspicion of a secondary neck with an unknown primary. On further evaluation, it was discovered that the primary tumour was a carcinoma of the esophagus and was metastatic at the time of presentation.

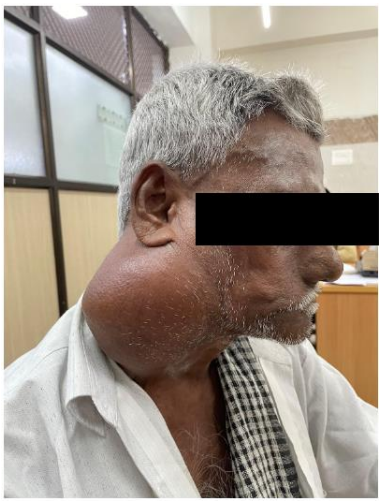

Figure 3: Large right lateral neck swelling extending up to the cheek.

Case 4

A lady in her forties presents with a swelling in the right side of the neck. The patient noticed this swelling in a relatively small size and presented early with a lemon-sized swelling. She gives no other significant history. An examination revealed a 6×4 cm smooth, well-defined, cystic swelling which was mobile (Figure 4). This swelling occurred in the mid-neck region on the right, 2 cm anterior to the sternocleidomastoid muscle. A branchial cyst was suspected however a CT revealed a 6×3×3 cm simple cystic lesion with no solid components. An FNAC gave a diagnosis of a simple lymph cyst of the neck. This was subsequently excised.

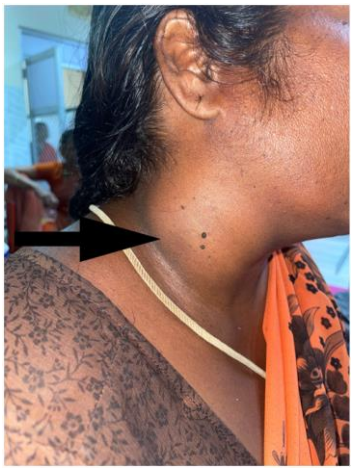

Figure 4: Simple lymph cyst of the right neck region.

Case 5

A 47-year-old male presented with a swelling under the jaw for the last 3 months. He is neither a smoker nor consumed alcohol. The swelling was insidious in onset and has been gradually progressing over the same period. The swelling causes no other symptoms. The swelling was found to be in the submandibular region, bimanually not palpable, however, could not be rolled over the inner aspect (Figure 5). An ultrasound quickly revealed the diagnosis of a submandibular gland tumour and an FNAC showed it to be a pleomorphic adenoma of the submandibular gland. We proceeded with an excision biopsy of the submandibular tumour taking care to preserve the branches of the lingual and hypogastric nerves (Figure 5 B). The patient is heathy and well on follow-up visits to our clinic.

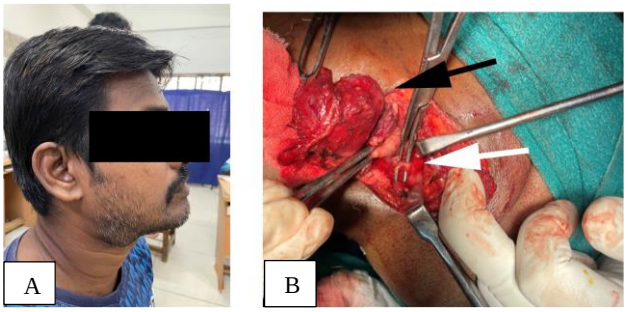

Figure 5 (A and B): Tumour on right side, below body of the mandible. Intra-op image demonstrating the tumour (Black arrow) and the duct (White arrow).

Case 6

A gentleman who is 40 years of age presents to the clinic with a large swelling in the right side of his neck extending from the right collarbone up to the right ear. He says the swelling was insidious in its onset but has progressed over the last two months to the present size. He occasionally hears a whistling sound during breathing. The examination reveals the swelling to be a single, 20×15 cm swelling, which is well-defined, smooth on the surface and cystic in consistency (Figure 6 A). Further, the swelling was fluctuant and transilluminant.

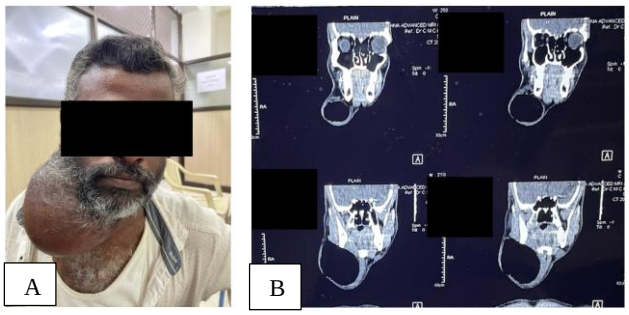

Figure 6 (A and B): Large neck swelling. CT neck revealed this swelling as air pocket from tracheal rent.

The swelling also moved on deglutition. Clinically this swelling was suspected to be a cystic swelling of the neck. However, a CT scan revealed a surprising diagnosis of a large air-filled cavity in the deep space of the neck (Figure 6 B). This was believed to be due to a rent in the trachea. The patient was evaluated and then operated on with a neck exploration and primary closure of the tracheal rent. He remains well on follow-up.

Case 7

A gentleman in his early thirties presents to our outpatient clinic with a progressively increasing swelling in the right side of his neck for the last 8 months. The swelling does not produce any other symptoms and he is only worried about it cosmetically. The swelling is a 10×8 cm ovoid swelling, 2 cm anterior to the sternocleidomastoid muscle, well-defined and cystic in consistency. A cystic swelling of the neck was suspected. A neck CT confirmed this to suggest a third branchial cleft cyst (Figure 7 A). An FNAC further confirmed the diagnosis. The patient was taken up for surgery under an elective setting with excision of the branchial cyst (Figure 7 B). Post-operatively his course was uneventful and there is no recurrence on follow-up.

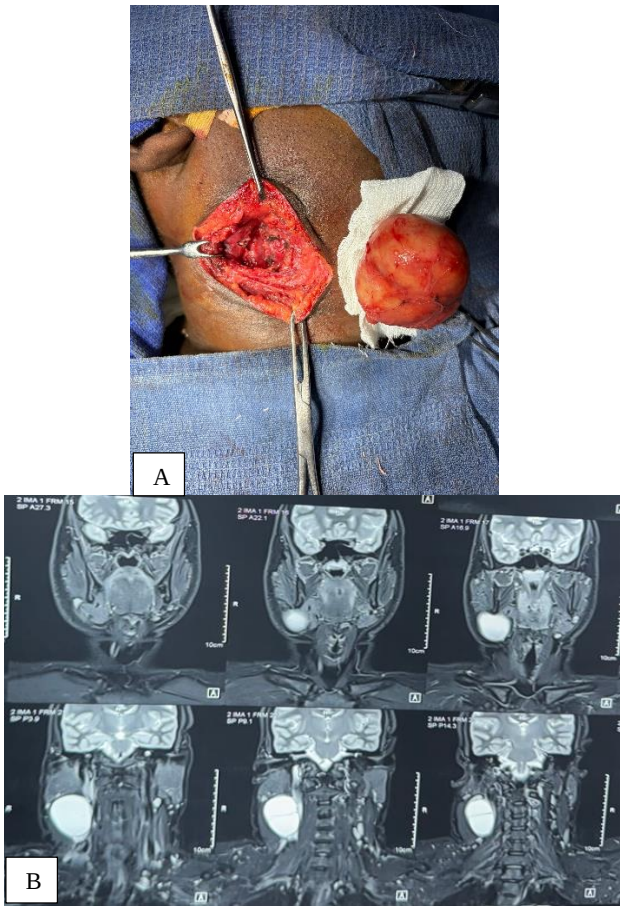

Figure 7 (A and B): CT showing a 3rd branchial cleft cyst. Intra-operative image of the excised swelling and the neck after dissection.

Case 8

A 62-year-old male presented to the emergency department with swelling on the right side of the neck for the previous three months. He also complained of pain in the back of the neck. He gives a history of loss of weight and appetite for the last six months. On examination, the swelling is 8×6 cm ovoid swelling that is ill-defined and fluctuant. The swelling is not trans illuminant. It disappears behind the right sternocleidomastoid muscle. An MRI of the neck showed tuberculosis of the skin with a paraspinal abscess. The patient was started on Anti-tubercular therapy. However, the swelling did not subside with this, and he was taken up for operative drainage. Fifty ml of pus was drained from the right paraspinal region. He is greatly relieved of his symptoms post-surgery and has begun a second regimen of ATT.

DISCUSSION

The neck is a region that is vital to the proper physiological function. It acts as a conduit for the vital vessels, nerves and structures that connect the heart and the brain. Additionally, the vital structures of eating and breathing, namely the trachea and oesophagus traverse the neck. The sheer number and range of structures in the neck means that masses arising from this region may be from several unique sites. Our series highlights some of these structures presenting as swellings in the neck. Though thyroid swellings are a common entity, giant diffuses such as the one we described are a rare occurrence. These pose a surgical challenge in both the pre-operative and post-operative setting.[2] Fibre-optic endoscopy has been suggested as an adjunct to diagnosis and tracheostomy in either setting could be used to relieve the anticipated tracheomalacia.[3] The neck also contains many bony structures such as the mandible, the hyoid and the cervical vertebrae. Though GCT account for 20% of benign bone tumours, GCT of hyoid bone remains a relatively rare entity requiring adequate and sometimes extensive surgery.[4] Another well-studied entire is cervical lymphadenopathy. Textbooks are replete with information on their differential diagnosis and secondary metastasis to a neck node remains a common entity.[5] However, our patient is unique in the sheer size to which the swelling has grown and the advanced stage at presentation.

Cystic swellings of the neck have been described previously in the literature. Common swellings are branchial cysts, plunging ranula, epidermoid cysts, dermoid cysts and cystic hygromas.[6] Branchial cysts are a type of branchial remnant of embryological origin. They have 4 types with the type 2 being the most common. Type 3 cysts such as ours are relatively uncommon.[7] These cysts can be treated with a simple excision. In the spectrum of cystic swellings, a simple lymph cyst is a rare diagnosis but can be treated with surgical excision.

Pleomorphic adenomas commonly occur in the parotid gland. They are uncommon in the submandibular gland. This gland has an equal propensity for benign and malignant diseases, and therefore, a careful evaluation of the aetiology must be made. Surgical excision is the treatment of choice in this condition.[8] Paraspinal abscesses are common but rarely present as cervical swellings.

The case of the large subcutaneous air pocket secondary to a tracheal rent is unique, and it is being presented in the literature for the first time. Our literature search did not reveal any such similar case. Air-filled neck swelling is likely to be either laryngocoeles or the rare pharyngocoeles and tracheocoeles. However, the size in our case was too big to fit these ethologies. The tracheal rent may have been due to trauma, barotrauma or obstructive sleep apnoea.[9] The patient needs evaluation and appropriate treatment of the underlying cause as well.

CONCLUSION

Much like the Greek Titan Atlas that held up the skies, this slender yet strong structure-the neck holds up the globe of the skull. Traversing it are all the vital structures that sustain life and from these may arise a number of pathologies that present as neck swellings. Neck swellings hence prove to be a diagnostic marvel that keeps us guessing at every turn, enshrining its position as the new pandora's box.

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