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## Rzadka manifestacja choroby Potta

### Rare manifestation of Pott's spine

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#### Streszczenie

Ropień pozagardłowy w przebiegu gruźlicy kręgosłupa szyjnego to rzadka prezentacja gruźlicy pozapłucnej, która może prowadzić do ciężkich, zagrażających życiu powikłań. W pracy przedstawiono przypadek młodego mężczyzny skarżącego się na ból podczas przełykania (odynofagię) i dolegliwości bólowe w obrębie szyi. Badanie wewnątrzustne ujawniło obecność torbielowatej masy nad tylną ścianą gardła, która okazała się ropniem pozagardłowym w przebiegu gruźlicy kręgosłupa szyjnego. Pacjent wrócił do zdrowia po zastosowaniu leczenia przeciwgruźliczego. Autorzy pracy podkreślają trudności diagnostyczne oraz przedstawiają sposób postępowania.

**Słowa kluczowe:** ropień pozagardłowy, choroba Potta, gruźliczy ropień pozagardłowy

#### Abstract

Retropharyngeal abscess with cervical spine tuberculosis is a rare presentation of extra-pulmonary tuberculosis, which can lead to severe life-threatening complications. We report a case of a young man who presented with odynophagia and neck pain. Intraoral examination revealed cystic mass over the posterior pharyngeal wall, which turned out to be a retropharyngeal abscess secondary to tuberculosis of spine. The patient recovered with anti-tubercular treatment. We would like to highlight the diagnostic challenge faced and the management of this entity.

**Keywords:** retropharyngeal abscess, Pott's spine, tuberculous retropharyngeal abscess

## INTRODUCTION

**R**etropharyngeal abscess (RPA) occurs as a result of suppurative lymphadenitis of a retropharyngeal node. RPA occurs following upper respiratory tract infection, trauma or foreign body. Spinal tuberculosis or Pott's disease is the most common type of skeletal tuberculosis, which commonly involves thoracic and lumbar region. RPA from cervical spinal tuberculosis is not uncommon. Tuberculous RPA, which occurs following infection spread to the persistent retropharyngeal node via lymphatic route, is common among adults.

## CASE REPORT

A previously healthy 26-year-old Filipino man presented with a 4-month history of painless left neck swelling with odynophagia. The patient reported that the left-sided neck swelling was progressively increasing in size for the past four months. Additionally, the patient lost weight (around 3 kg) along with the loss of appetite. Two weeks prior to presentation he complained of reduced effort tolerance, particularly when climbing a staircase. There was, however, no chest pain or noisy breathing. Besides that, he had no dysphagia, odynophagia or ear symptoms. He worked as a chef in a local food and beverage outlet and denied any tuberculosis contact or high-risk behaviors. The patient also claimed that he did not seek any treatment elsewhere.

Upon examination, the patient was comfortable under room air with no audible stridor. Vital signs were stable. Neck examination revealed a painless mass measuring 3 × 3 cm over left level II and left supraclavicular region. The overlying skin appeared to be normal with no punctum seen. On palpation both masses appeared to be painless with well-defined borders, firm in consistency, non-pulsatile and not fixed to the underlying structures. There was no restriction of neck movement. Intraoral examination revealed cystic swelling over the left posterior pharyngeal wall with slight medialization of the lateral pharyngeal wall. Other systemic and neurological examinations appeared to be normal.

Flexible nasopharyngeal laryngoscopy showed a bulging mass occupying the entire left posterior pharyngeal wall with intact mucosa. The mass was not obstructing the airway and the supraglottic structures were normal with mobile vocal cords. Lateral soft tissue neck radiograph revealed significant prevertebral soft tissue widening, predominantly at C2 to C4. The anterior margin of C3 and C4 vertebral body appeared to be irregular and eroded (Fig. 1). We proceeded with contrast-enhanced computed tomography (CECT) of the neck, which showed a large left parapharyngeal abscess with retropharyngeal, intraspinal and upper mediastinal extension, which led to C4 destruction, highly suggestive of tuberculosis (Fig. 2). Laboratory investigations showed normal blood counts with raised erythrocyte sedimentation rate (ESR) of 66 mm/hour and raised



*Fig. 1. Lateral soft tissue neck radiograph showed significant prevertebral soft tissue widening at level C2–C4 with anterior margin of C3 and C4 vertebral body appeared to be eroded*

C-reactive protein (CRP) of 62.5 mg/L (reference range <5.0). Mantoux test revealed 20 mm. Sputum acid-fast bacilli (AFB) investigations revealed no AFB. Fine needle aspiration cytology of the neck mass demonstrated clusters of granulomas composed of epithelioid histiocytes admixed with multinucleated giant cells, which indicated chronic granulomatous inflammation. Other infectious screenings were non-reactive. Hence, a provisional diagnosis of spine tuberculosis with RPA was made. The patient subsequently underwent intraoral aspiration under local anesthesia whereby 20 cc of pus was aspirated, which was positive for *Mycobacterium tuberculosis*. There was a significant subjective improvement of the symptoms after aspiration of the abscess and anti-tuberculous treatment was initiated. The patient was co-managed by an orthopedics, respiratory medicine and ENT (ears, nose and throat) team. He was put on Aspen cervical collar for cervical spine protection and managed conservatively by an orthopedics team. The patient showed considerable improvement at discharge.

## DISCUSSION

Tuberculous RPA in adults is associated with tuberculous involvement of the cervical spine. Possible mode of spread includes lymphogenous and hematogenous route. Lymphatic route is via retropharyngeal lymph node<sup>(1)</sup>, whereas hematogenous route of spread is via pulmonary tuberculosis<sup>(2)</sup>. Typical presentation of RPA includes, among others, dysphagia, neck swelling, fullness of the lateral pharyngeal wall and cystic swelling over the posterior pharyngeal wall<sup>(3)</sup>. Besides that, single-sided neck pain with restriction of neck movement can also be a prominent presentation<sup>(4)</sup>. Thorough and detailed medical history and clinical examination

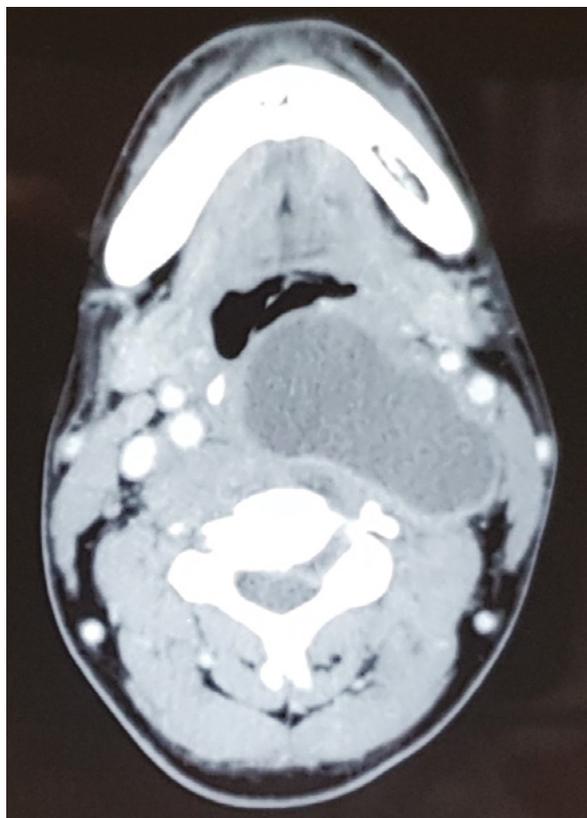


Fig. 2. CECT neck showed a well-defined low attenuating rim-enhancing homogeneous collection at large left parapharyngeal space with retropharyngeal extension

are crucial in aiding the diagnosis. Our patient presented with unilateral neck swelling with intraoral cystic swelling over posterior pharyngeal wall, which should raise suspicion of tuberculous RPA.

The diagnosis of RPA can be supported by imaging. The presence of prevertebral space widening in the lateral soft tissue neck radiograph leads to the diagnosis of RPA. CECT can demonstrate a ring-enhancing lesion within the retropharyngeal space in addition to collapse of the anterior angle of the cervical vertebra as in Pott's disease<sup>(5)</sup>. Magnetic resonance imaging (MRI) is superior in delineating prevertebral soft tissue involvement in RPA<sup>(4)</sup>. On the other hand, blood investigations and infectious screening, including rapid plasma reagin (RPR), hepatitis screening, human immunodeficiency virus (HIV), erythrocyte sedimentation rate (ESR), CRP, and full blood count, are also useful. Tuberculous RPA can be confirmed by culture and sensitiv-

ity of the aspirate drainage from the retropharyngeal space. Having said that, in cases of high clinical suspicion of tuberculosis, anti-tuberculosis treatment ought to be started first<sup>(4)</sup>. The mainstay treatment of tuberculous RPA is transoral aspiration with anti-tuberculous medication<sup>(5)</sup>. External drainage may not be required in most cases as pus sampling can be obtained transorally under local anaesthesia to confirm diagnosis and, at the same time, to allow for significant symptom relief<sup>(4,5)</sup>. As in our case, the patient's condition improved significantly after transoral drainage and anti-tuberculous treatment. Early diagnosis and treatment is crucial to prevent RPA life threatening complications, such as impending airway obstruction<sup>(6)</sup>. Co-management of RPA with cervical spine involvement with orthopaedics team and respiratory medicine team is mandatory for the greatest benefits of patients.

## CONCLUSION

RPA with cervical spine involvement is a rare form of extrapulmonary tuberculosis. Healthcare professionals are urged to maintain clinical suspicion for such clinical entity as early diagnosis and treatment is essential to prevent life threatening complications.

## Conflict of interest

The authors do not report any financial or personal connections with other persons or organisations, which might negatively affect the contents of this publication and/or claim authorship rights to this publication.

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