Case Report

Nasopharyngeal Tuberculosis: A Case Report Presenting with Diplopia

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Tuberculosis (TB) is a common infectious disease worldwide. It can affect many organs, the most common is lungs infection. Upper respiratory tract involvement is uncommon and the least common regional involvement is nasopharyngeal region. The authors report a case of nasopharyngeal tuberculosis who came with diplopia which is a very rare presentation. Nasopharyngeal tuberculosis is a rare condition that is found in only reported cases in the literature. In Thailand, the present case is the second case of this condition with diplopia. Nasopharyngeal examination reveal mass or ulceration. The diagnostic tool is lesional biopsy. Histology is necessary to diagnose tuberculosis and to exclude other conditions especially nasopharyngeal cancer. Nasopharyngeal tuberculosis has a good prognosis after treatment.

Keywords: *Nasopharynx, tuberculosis, nasopharyngeal tuberculosis, diplopia, carvernous sinus*

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Tuberculosis (TB) is a common infectious disease worldwide especially in developing countries. It can affect many organs, the most common is lung infection. Upper respiratory tract involvement is uncommon in approximately 1.8% of all TB patients[1]. From previous reports, structures of upper respiratory tract involvement by tuberculosis are larynx, pharynx, hypopharynx, tonsil, soft palate, tongue, middle ear and also nasopharynx[1-11]. Tuberculosis of the nasopharynx is the least common regional involvement with only a few reported cases in the literature[2-11]. The authors report a case of nasopharyngeal tuberculosis who came with diplopia which is a very rare presentation.

Case Report

A 30-year-old Thai man was admitted to Lardpraw Hospital on January 8, 2003. He presented with progressive binocular horizontal diplopia. Diplopia was worse after turning to the left gaze and improved after turning to the right. His clinical symptoms were progressive within 2 days. He was a healthy person, with no underlying disease and no history of contact with tuberculosis. He had no epistaxis, running nose, post nasal drip, nasal obstruction and chronic cough. He denied abnormal symptoms either head pain, neck pain, nausea, vomiting, fever, night sweat, anorexia, weight loss, numbness or weakness. Physical examinations demonstrated three cervical lymph nodes, rubbery in consistency (left 1 x 2 cm, 2 nodes and right 1 x 1 cm, 1 node). Abnormal neurological signs found only left lateral rectus muscle palsy that meant isolated left sixth cranial nerve palsy. Common differential cause of isolated cranial nerve sixth palsy are increased intracranial pressure, meningitis and invasion of both intra-axial and extra-axial lesion of brainstem. The presented pa-tient had no symptom and sign of increased intracranial pressure, meningeal irritation or brainstem lesion. So, most likely the anatomical localization of the presented patient was extra-axial lesion at the base of the skull region. Many investigations were done. Complete blood count were, haematocrit 44%, white

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blood count 5,000/cu mm (with polymorphonuclear cell 60%, mononuclear cell 40%) and platelet 169,000/cu mm. Blood chemistry including blood sugar, renal function and electrolyte were normal. Anti HIV was negative. VDRL was non reactive. ESR was 33 mm/hr. Minute interstitial infiltration at the left apical lung field was presented in chest x-ray. MRI of the brain didn't have a brain parenchymal lesion but found mass at the nasopharynx with extension to the sphenoid sinus and a part of the left carvernous sinus, Fig. 1-3. Direct nasopharyngeal examination was done and revealed irregular mucosa and a bulging mass at the roof of the nasopharynx.

According to the nasopharyngeal mass and cervical lymphadenopathy, nasopharyngeal cancer was the first provisional diagnosis. Lesional biopsy was done. Histology revealed the presence of several granulomas made up of epithelioid cells, fibroblasts and Langhan's giant cells and caseous necrosis but AFB was negative. These findings could be concluded

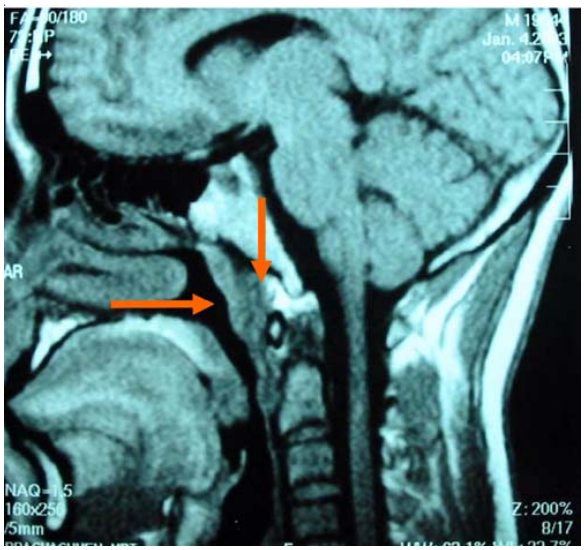

Fig. 1 MRI brain, saggital view, T1W showed lobulated mass at roof of nasopharynx (arrow)

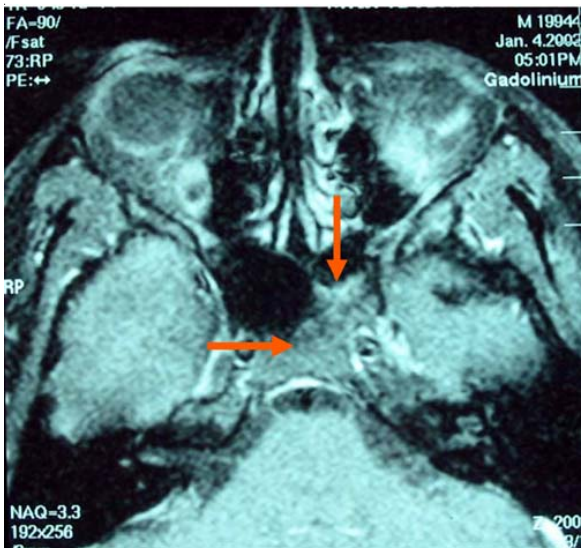

Fig. 2 MRI brain, axial view, T1W showed mass lesion invaded left side sphenoid sinus (arrow)

as caseous granulomatous inflammation compatible with tuberculosis, Fig. 4. Final diagnosis was nasopharyngeal tuberculosis with involved left sixth cranial nerve by compression or inflammation at a partial part of the carvernous sinus and involved sphenoid sinus. He was treated with isoniacid 300 mg/d, rifampicin 600 mg/d, pyrazinamide 1500 mg/d, ethambutol 800 mg/d and vitamin B1-6-12. Two weeks later, he had improvement, full range of motion of the extra-ocular muscles with no diplopia, gain weight of 2 Kg and regression in size of the cervical lymph nodes. He got standard TB regimen for 6 months. After 1 year, he didn't develop recurrent illness.

Discussion

Nasopharyngeal lesion has many differential diagnosis including cancer (squamous cell carcinoma, lymphoma), fungal infection (aspergilosis, mucormycosis), granulomatous inflammation (sarcoidosis, leprosy, syphilis, lethal midline granuloma, tuberculosis), autoimmune disease (polyarteritis nodosa, churg strauss and Wegener'sgranulomatosis)[3,5].

Nasopharyngeal tuberculosis is a rare condition with a few reported cases and all of them were diagnosed by biopsy[1-11]. Possible pathophysiology is activated acid fast bacilli (dormant form) in adenoid during childhood, direct mucosal infection after inha-

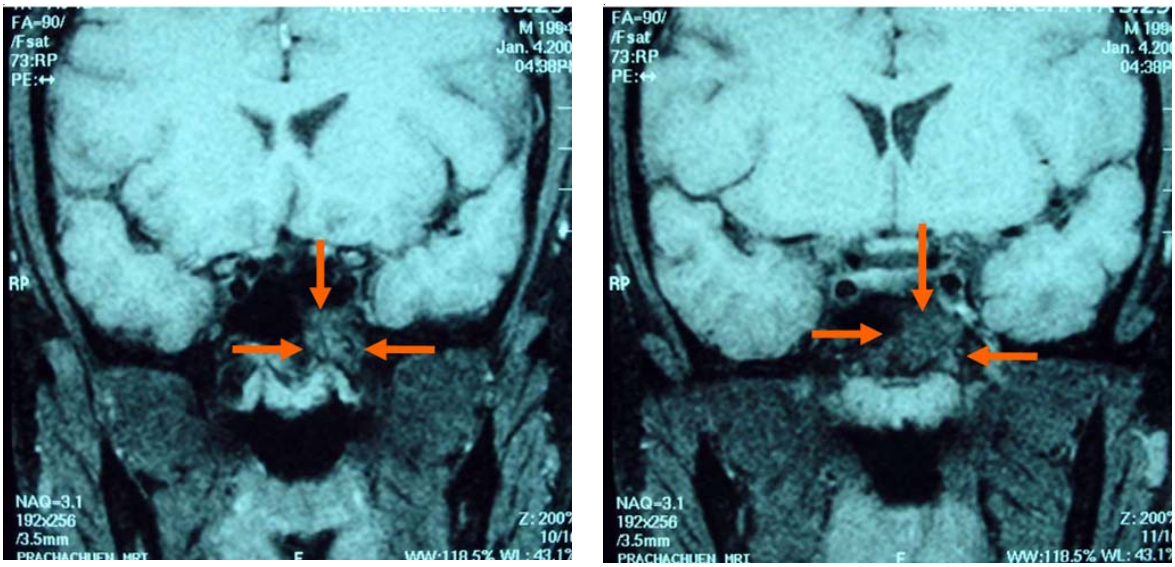

Fig. 3 MRI brain, coronal view, T1W shoewed mass at left side sphenoid and carvernous sinus (arrow)

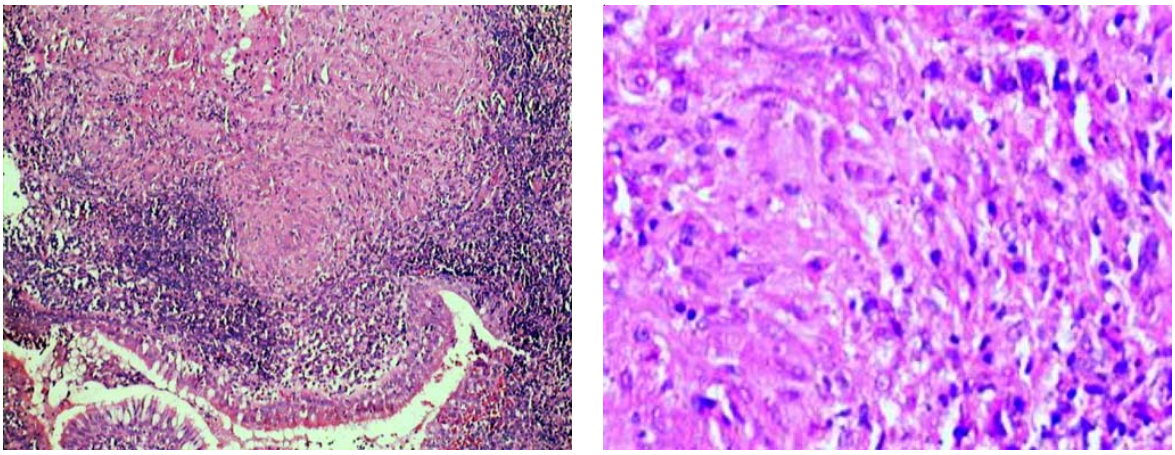

Fig. 4 Histology (H&E x10, x 40, NO 46AS/00071) showed granulomatous inflammation composed of epitheliod cell, Langhan's giant cell and caseous necrosis

lation or blood borne spreading secondary from pulmonary tuberculosis[4]. Most patients were healthy and without a history of TB exposure[2-6]. Some patients had pulmonary TB[3,5,10] or cervical lymphadenopathy[4,11]. Most patients had no systemic symptom[11]. Common presentations were nasal obstruction, nasal discomfort, epistaxis, otitis media, sore throat and cough[1,3-6,8-10]. Cranial nerve involvement was a very rare presentation of nasopharyngeal TB which has been reported in only one patient[1], whereas, this clinical presentation was more common in nasopharyngeal cancer[4]. Direct invasion from the nasopharynx through the carvernous sinus or the base of the skull region can produce third or sixth cranial nerve palsy. Nasopharyngeal examination revealed a mass (tuberculoma) or ulceration[4-6,8]. Pathology of tuberculosis are presence of granulomatous inflammation that is composed of epitheloid cell, Langhan's giant cell with or without caseation. Definite diagnosis are demonstration of acid fast bacilli or positive culture for *Mycobacterium tuberculosis*. In fact about demonstration of organisms, only a few specimens demonstrated acid fast bacilli[3,5,7,11] but almost all were negative[1,3-8]. Histology is necessary to diagnose tuberculosis and to exclude other conditions especially nasopharyngeal cancer because the specific treatment is different. Misdiagnosis were reported either as the first diagnosis of nasopharyngeal cancer or recurrent lesion occurring in patients with true nasopharynx cancer who had had radiation, and these were diagnosed TB after rebiopsy[11]. Some reports showed co-existing conditions of cancer and TB[4]. One reported patient of nasopharyngeal tuberculosis was misdiagnosed as Wegener's granulomatosis and received immunosuppressive drugs (azathiopine and prednisolone) and then could be diagnosed after developing miliary TB[6]. Nasopharyngeal tuberculosis is treated by antituberculous drugs with better prognosis than other diseases. Most patients reported a very good response to anti TB drug[2-5,10,11].

Conclusion

The authors report a case of nasopharyngeal tuberculosis, which is a rare disease. He came with diplopia due to isolated sixth cranial nerve palsy. Diplopia is a rare symptom of nasopharyngeal tuberculoma. Direct invasion from the nasopharynx through the carvernous sinus or the base of the skull region can cause third or sixth cranial nerve palsy. Tuberculosis should be one of differential diagnosis of nasopharyngeal lesion either a mass or ulcerative findings. Biopsy and histologic study should be performed in every patient for prevention of misdiagnosis with nasopharyngeal cancer and other kinds of granulomas. Nasopharyngeal tuberculosis has a good prognosis after treatment.

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วัณโรคหลังโพรงจมูก: รายงานผู้ป่วยอาการมองเห็นภาพซ้อน

พาสิริ สิทธินามสุวรรณ, อัมพร สกุลแสงประภา, โยธิน ชินวลัญช์

วัณโรคเป็นโรคติดเชื้อโรคหนึ่งที่พบบ่อยและพบได้ทั่วโลก โรคนี้สามารถเกิดความผิดปกติได้หลายอวัยวะ ที่พบบ่อยที่สุดคือวัณโรคปอด วัณโรคของระบบทางเดินหายใจส่วนต้นเป็นตำแหน่งการติดเชื้อที่พบไม่บ่อย รอยโรคบริเวณดังกล่าวที่มีรายงานน้อยที่สุดคือบริเวณหลังโพรงจมูก (nasopharynx) ผู้เขียนได้เสนอรายงานผู้ป่วยรายหนึ่งที่เป็นวัณโรคหลังโพรงจมูก (nasopharyngeal tuberculosis) ผู้ป่วยมาพบแพทย์ด้วยอาการมองเห็นภาพซ้อน ซึ่งเป็นอาการที่พบน้อยมาก จากการรวบรวมรายงานผู้ป่วยที่เป็น nasopharyngeal tuberculosis ทั้งจากวารสารในประเทศไทย และต่างประเทศพบว่ามีรายงานผู้ป่วยจำนวนน้อยมาก ในประเทศไทยมีรายงานเช่นนี้มาก่อนเพียง 1 ราย ลักษณะรอยโรคที่พบบริเวณหลังโพรงจมูกที่พบมีลักษณะเป็นก้อนหรือเป็นแผล การวินิจฉัยต้องอาศัยการตรวจชิ้นเนื้อทางพยาธิวิทยาซึ่งเป็นการตรวจที่สำคัญที่สุดในการแยกโรคอื่นโดยเฉพาะมะเร็งหลังโพรงจมูก ซึ่งพบบ่อยกว่ามาก ผลการรักษาด้วยยาต้านวัณโรคได้ผลดีและมีการพยากรณ์โรคที่ดี