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RESEARCH ARTICLE

UNUSUAL COMPLICATIONS OF CHOLESTEATOMA: CASE REPORT AND REVIEW OF THE LITERATURE.

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Abstract

Cholesteatomatous otitis is a chronic dangerous condition of the middle earbecause of its potential intra and extra cranial complications.These complications have become exceptional since the systematic use of Antibiotics and the early management of the cholestatomatous disease. However, they are still there, especially in the developing countries. We report an original observation of a 29-year-old female with a Bezold's abscess, sigmoid sinus thrombosis and purulent meningitis following a neglected right ear othorrhea. Very few cases associating these 3 complications have been described in the literature. They may be life-threatening. Therefore, an otorrhea must not be neglected by the patient and it's very important to diagnose and treat early all cases of chronic otitis media to prevent them.

Introduction:-

Cholesteatomatous otitis is a chronic dangerous condition of the middle earbecause of its potential complications. These complications have become less frequent since the advent of antibiotics. However, they continue to show a high incidence in developing countries **[1].** We report the case of a 29-year-old female with a Bezold's abscess, sigmoid sinus thrombosis and purulent meningitis following a neglected right ear othorrhea. Very few cases associating these 3 complications have been described in the literature.

Case report:

A 29-year-old patient from a disadvantaged areas, with history of a petromastoidal recess for a chronic right cholesteatomatous otitis 10 years ago and episodes of right otorrhea dragging since 1year, was admitted to the emergency department for a meningeal syndrome with torticollis evolving since three days. At admission, she was feverish at 39 ° C. The otoscopic examination revealed a right purulent otorrhea with squamous exit on aspiration. The physical examination found a postauricular cervical swelling with inflammatory signs that was fistulized to the skin **(figure 1)** .There was a biological inflammatory syndrome. The lumbar puncture brought back a turbid liquid. Cervical and brain CT showed a total hypodense right petromastoid filling **(figure 2)** with lysis of attic wall, tegmen tympani **(figure 3),** mastoid and ipsilateral occipital condyle **(figure 4a, 4b)** associated with a deep cervical abscess **(figure 5).** Cerebral venous CT angiography revealed thrombosis of the right sigmoid sinus, extended to the upper part of the internal jugular vein **(figure 6).**The patient was put on meningeal antibiotic therapy. No anticoagulants were introduced. The postauricular abscess was drained and the cholesteatoma was surgically resumed with good evolution**.**

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Discussion:-

Chronic otitis media (COM) is a potentially serious condition due to possible intracranial and extra cranial complications. The new generations of antibiotics have significantly reduced these complications. However, they are still present, especially in developing countries where socio-economic factors are unfavorable **[1]**, as is the case with our patient.

Meningitis remains the most common intracranial complication **[2, 3].** The cerebral CT should be performed first before the lumbar puncture to eliminate a possible cerebral abscess which may contraindicate it by the presence of intracranial hypertension **[4].** The most commonly implicated germ in otogenous meningitis is the Streptococcus pneumoniae, followed by Haemophilus Influenzae **[5, 6].**

Thrombophlebitis of the lateral sinus is the most common venous complication of OMC, accounting for up to 19% of intra cranial complications **[2, 7].** It results either from a direct attack since the mastoid, or from a thrombophlebitis of the middle ear's venules. It may manifest as headache, meningeal syndrome, fever, vomiting, earache, photophobia and papillary edema**.** A torticollis can be found in case of extension to the internal jugular vein, which is the case in our patient. Diagnosis is made by CT angiography and cerebral MRI **[1].** Treatment is based on venous antibiotic therapy. The role of anticoagulant therapy is very controversial **[8];** our patient did not receive any anticoagulation.

Bezold's abscess is an extra cranial complication that has become exceptional following the advent of antibiotics and the codification of the management of chronic otitis **[9, 10].** It is defined as a deep cervical abscess secondary to acute mastoiditis. It was initially described by the German Friedrich Bezold in 1881 on cadavers that had purulent secretions drained at the inner surface of the mastoid process. This abscess results from a break-up of the internal cortical mastoid at the level of the digastric groove **[1].** Its occurrence is exceptional before the age of 8 years because the mastoid is still little pneumatized and constitutes a barrier against the diffusion of pus through the cortical bone **[11, 12].** Factors promoting the spread of this cervical abscess are virulence of the germ, delayed management of otitis media, and associated defects such as diabetes and HIV infection **[9, 13].** In our patient, delayed management led to the fistulization of the abscess to the skin. Cholesteatoma and previous mastoidectomy also predispose to cervical extension following rupture of the cortical mastoid **[14],** as is the case of our patient. The diagnosis of Bezold's abscess is clinical associating a simple or cholesteatomatous COM to a high cervical abscess **[9].** Cervical ultrasound confirms the diagnosis **[11, 12].** Cervical and thoracic CT is the exam of choice for extension assessment **[9, 12, 15].** The treatment of Bezold's abscess consists of surgical drainage with antibiotic therapy adapted to the responsible germ and a petro-mastoid recess with excision of cholesteatoma **[11].**Streptococcus pneumoniae is the most commonly isolated organism **[16].**

Conclusion:-

Bezold's abscess, sinus thrombosis and purulent meningitis are respectively extra- and intracranial complications of choleteatomatous otitis that may be life-threatening. They became exceptional since the systematic use of Antibiotics and the early management of the cholestatomatous disease. However, they are still there, especially in the developing countries**.** Therefore, an otorrhea must not be neglected by the patient and it's very important to diagnose and treat early all cases of COM to prevent these very dangerous complications.

Disclosure of interest:
The authors declare that they have no competing interest.

Figure 1:-a postauricular cervical swelling with inflammatory signs that was fistulized to the skin

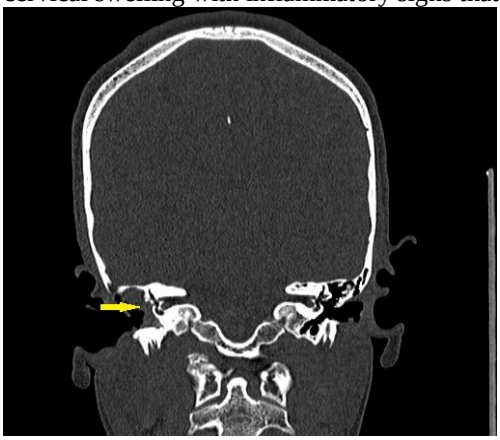

Figure 2:-Coronal cervical and brain CT in bone window showed a total hypodense right petromastoid filling (arrow).

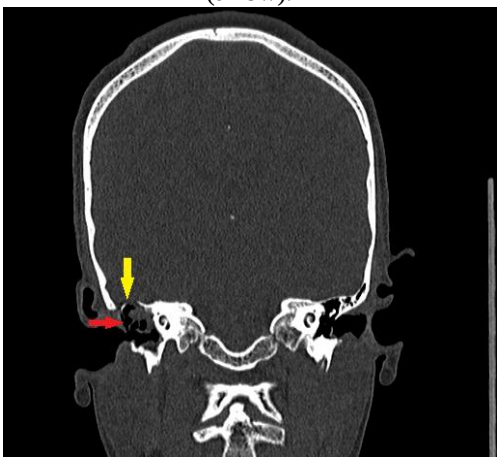

Figure 3:-Coronal cervical and brain CT in bone window showedlysis of attic wall (red arrow) and tegmen tympani (yellow arrow).

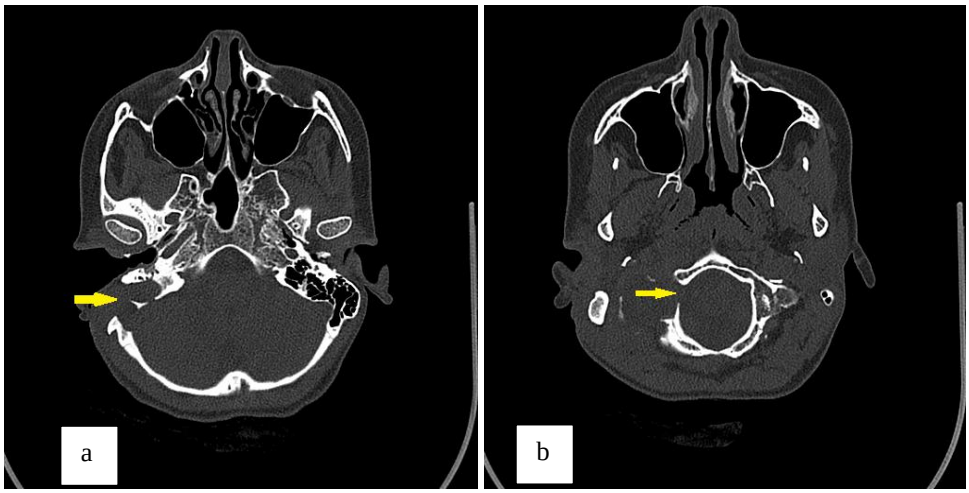

Figure 4:-axial cervical and brain CT in bone window: **a)** lysis of mastoid process**, b)** lysis of occipital condyle.

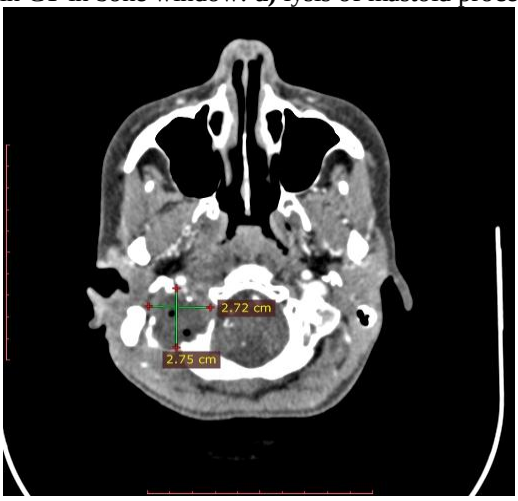

Figure 5:-axial enhanced cervical CT: a deep cervical abscess containing air bubbles: Bezold's Abscess.

Figure 6:-Cerebral venous CT angiography revealed thrombosis of the right sigmoid sinus (yellow arrow), extended to the upper part of the internal jugular vein (red arrow).

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