



Case report

Sudden death due to a colloid cyst of the third ventricle: Report of three cases with a special sign at autopsy

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ABSTRACT

Colloid cysts of the third ventricle are rare benign cysts but they may be potentially life-threatening. Three cases of sudden death resulting from colloid cysts of the third ventricle are presented. The first and second cases were treated for migraine headaches. In the first case, the patient was a 24-year-old woman who presented to the hospital with a severe headache and was sent back home after medical treatment. Six hours later, she was found dead in her bed. The second case was a 21-year-old woman who experienced a severe headache, dizziness and vomiting 1 day prior to her death. She was transported to the hospital, where she was pronounced dead upon arrival. The third case was a 25-year-old man who experienced headaches and vomiting and was diagnosed with and medically treated for sinusitis. He lost consciousness and was taken to hospital, where he was pronounced dead on arrival. During the autopsy of all three cases, there was a grey transillumination area observed that occurred due to the stretching of tissue at the base of brain between the corpus mamillare and chiasma opticum. Dissection of the brain revealed a colloid cyst of the third ventricle.

To avoid such fatal complications, prompt diagnosis using CT or MRI is essential in patients who have a long-standing history of intermittent headaches. During the autopsy of the sudden deaths of people with medical antecedents of headaches, if a grey color is observed between the chiasma opticum and the corpus mamillare in the base of the brain, a colloid cyst should be considered and this region should be dissected and examined carefully.

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1. Introduction

A broad spectrum of neuropathological abnormalities may be encountered during medicolegal autopsies, e.g., brain tumors, trauma, intoxication, infectious diseases or vascular diseases [1].

Colloid cysts are considered to be an ectopic endodermal migration in the velum interpositum that occurs during the development of the central nervous system. They typically originate from the rostral aspect of the third ventricle roof and project inferiorly, thus occupying the anterosuperior quadrant adjacent to the foramina of Monro [2,3]. The colloid cyst is attached to the wall of the third ventricle via a stem that provides its partial stability in the lumen of the ventricle [4–6].

Colloid cysts of the third ventricle are rare, accounting for approximately 0.5–2.0% of all intracranial tumors and approximately 10–20% of intraventricular tumors [2]. It is the most

common third ventricular mass in adults, and typically presents in mid-adulthood [7].

Many colloid cysts are asymptomatic and are discovered coincidentally. In symptomatic patients, headache is the most common initial symptom in 75% of patients. Such headaches may be constant, intermittent or migrainous. Other symptoms include disturbed mentation, vomiting, seizures (20%), vertigo, drop attacks and sudden attacks of leg weakness [8].

Sudden death is the most extreme and challenging feature of the disease. The definitive cause of this lethal phenomenon is still a matter of debate, but acute blockage of cerebrospinal fluid (CSF) with instant an herniation or decompensation in the chronic hydrocephalus have been postulated. Another proposed mechanism is the disturbance of hypothalamus-mediated cardiovascular reflex control [9]. It has been estimated that at least one-third of symptomatic patients are at risk for precipitous decline or death [10].

In this paper, three cases are presented of third ventricle colloid cysts that were discovered only at autopsy, but which upon reflection, displayed some of the classical clinical features.

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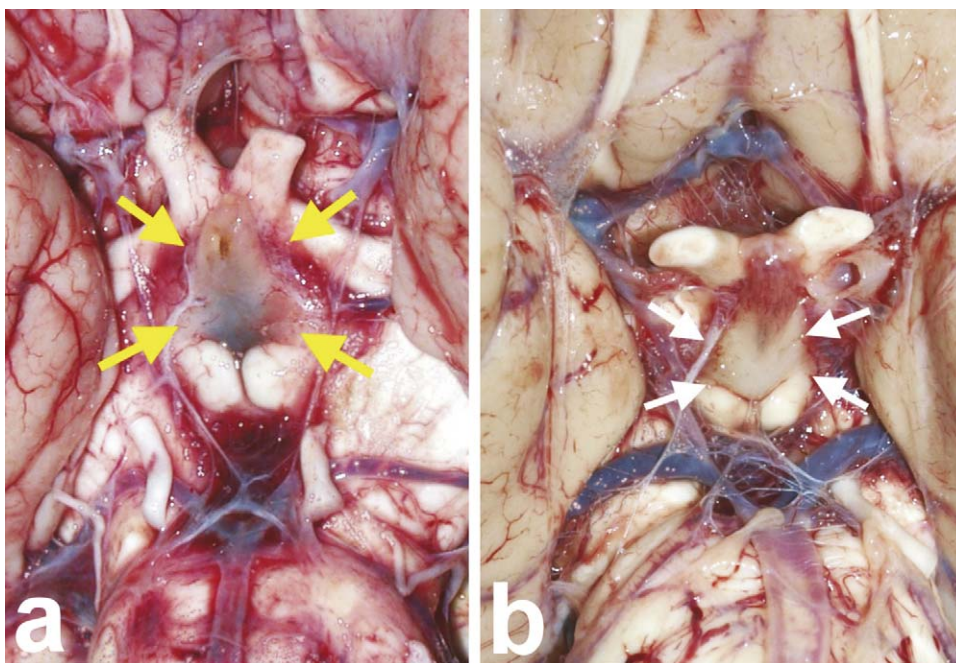


Fig. 1. Appearance of tuber cinereum. (a) The tuber cinereum is grey and transillumination is present (case 1); (b) normal appearance (for comparison).

2. Case reports

2.1. Case 1

A 24-year-old woman had been treated for migraine headaches for 12 months. The patient presented to the hospital with a severe headache and was sent back home after 3 h of medical treatment. Six hours later, she was found dead in her bed in the early morning. An autopsy revealed no relevant findings in organs besides the brain that would contribute to the death of the patient. The brain weighed 1510 g. Upon macroscopic examination, the brain was markedly swollen with gyral flattening, sulcal narrowing and bilateral uncus grooving. The cerebellar tonsils were grooved. It was observed that the tuber cinereum, which is located between the corpus mamillare and the chiasma opticum, was grey and that transillumination was present in this region (Fig. 1a). Brain sections revealed a cyst inside the third ventricle near the foramen of Monro that measured 2 cm in diameter and contained greenish-

brownish mucoid and gelatinous fluid (Fig. 2). The lateral ventricles were extremely dilated. Both lungs showed intrapulmonary hemorrhage associated with congestion and moderate edema. All the other organ systems were normal and showed no abnormalities.

2.2. Case 2

A 21-year-old woman was treated for migraine headaches for a 6-month period, as in the first case. She complained of dysmenorrhea and irregular menstrual cycles. One day prior to her death, she experienced a severe headache, which started during the evening and continued through the night. This headache was combined with dizziness and three instances of vomiting attacks. She lost consciousness in the early morning and was transported to the hospital, where she was pronounced dead upon arrival. The medical history, taken from her family, showed that she had a similar attack 3 months prior, which had resolved

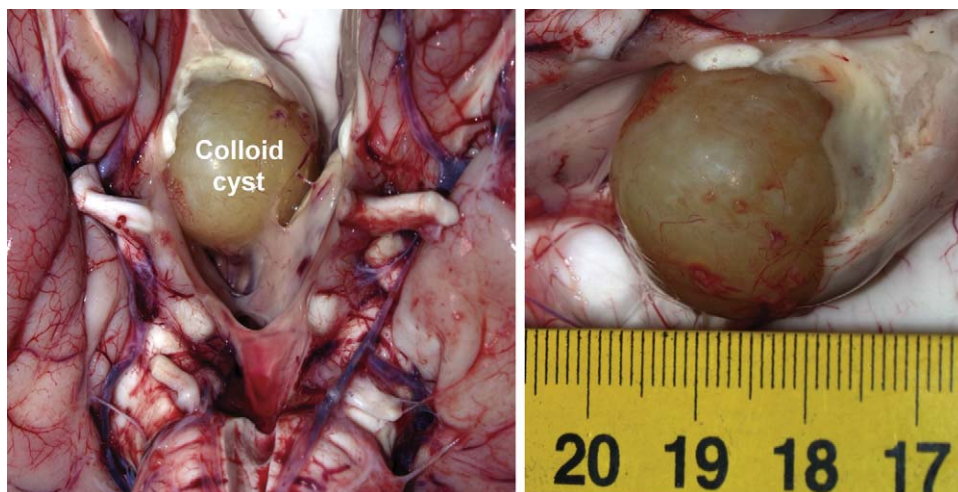


Fig. 2. Colloid cyst measuring 2 cm in diameter and containing greenish-brownish mucoid and gelatinous fluid inside the third ventricle (case 1).

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