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# Persistence of the cranio-pharyngeal canal: about a case.

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***Abstract:*** *We report the case of a persistent cranio-pharyngeal canal, in a child of 09 years. The circumstance of discovery was a staturo-weight retardation. The biological assessment showed a deficit in GH. The MRI revealed a persistent cranio-pharyngeal canal, associated with an anomaly of anterior pituitary migration. He was put under hormone replacement therapy.*

**Keywords:** cranio-pharyngeal canal, pituitary gland.

**Introduction:**

The persistence of the cranio-pharyngeal (CCP) or basi-pharyngeal canal is a rare congenital anomaly. It extends from the bottom of the sella turcica to the roof of the nasophrynx, having an anterior inferior direction. It is normally closed at birth. In rare cases, it may persist as a thin pertuis (less than 1.5mm), more or less complete. It is asymptomatic in 0.42% of the population [1]. Often associated with pituitary abnormalities.

**Patient and observation:**

We report a case of persistence of the cranio-pharyngeal canal, found in a 9-year-old child, addressed for a staturo-weight retardation, with in the clinical examination a weight of 14 kg (-2 SD) and a height of 90 cm -2DS). The biological assessment showed a deficit in GH (3mg / l). The MRI objectified a pertuis at the level of the sphenoidal body just below the sellar floor, reaching to the roof of the nasopharynx (Figure 1: sagittal T1). The sagittal and coronal FIESTA sequence (Figure 2.3) showed that this channel was continuous with the arachnoid spaces and contained CSF. The anterior and posterior pituitary glands are separated and too slender, with the post-pituitary gland at the sella turcica and the anterior pituitary gland within the cranio-pharyngeal canal (Figure 4: coronal T1). The pituitary stalk is continuous and median (Figure 5.6: coronal and sagittal T1). A CT complement revealed the linear bone defect of the sphenoid body (Figure 7). He was put under hormone replacement therapy.

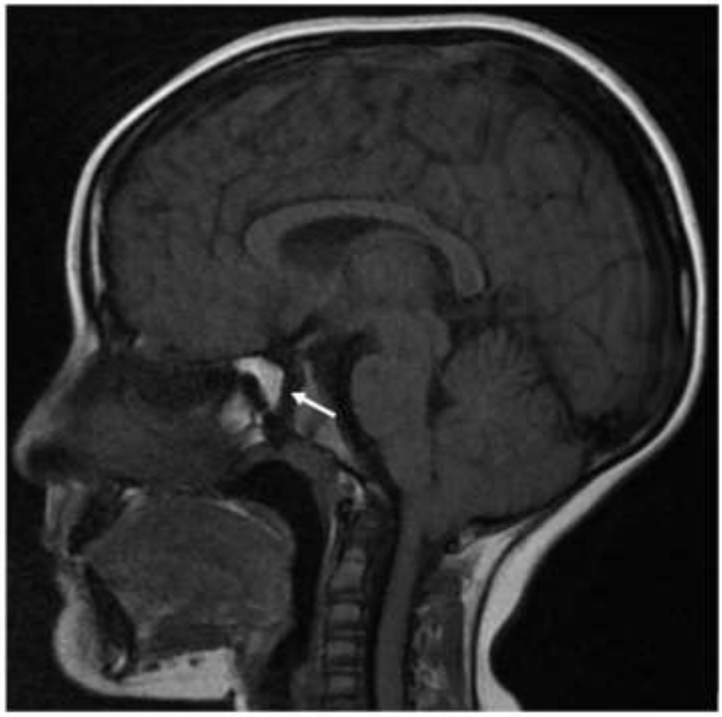


Figure 1

Figure 2,3

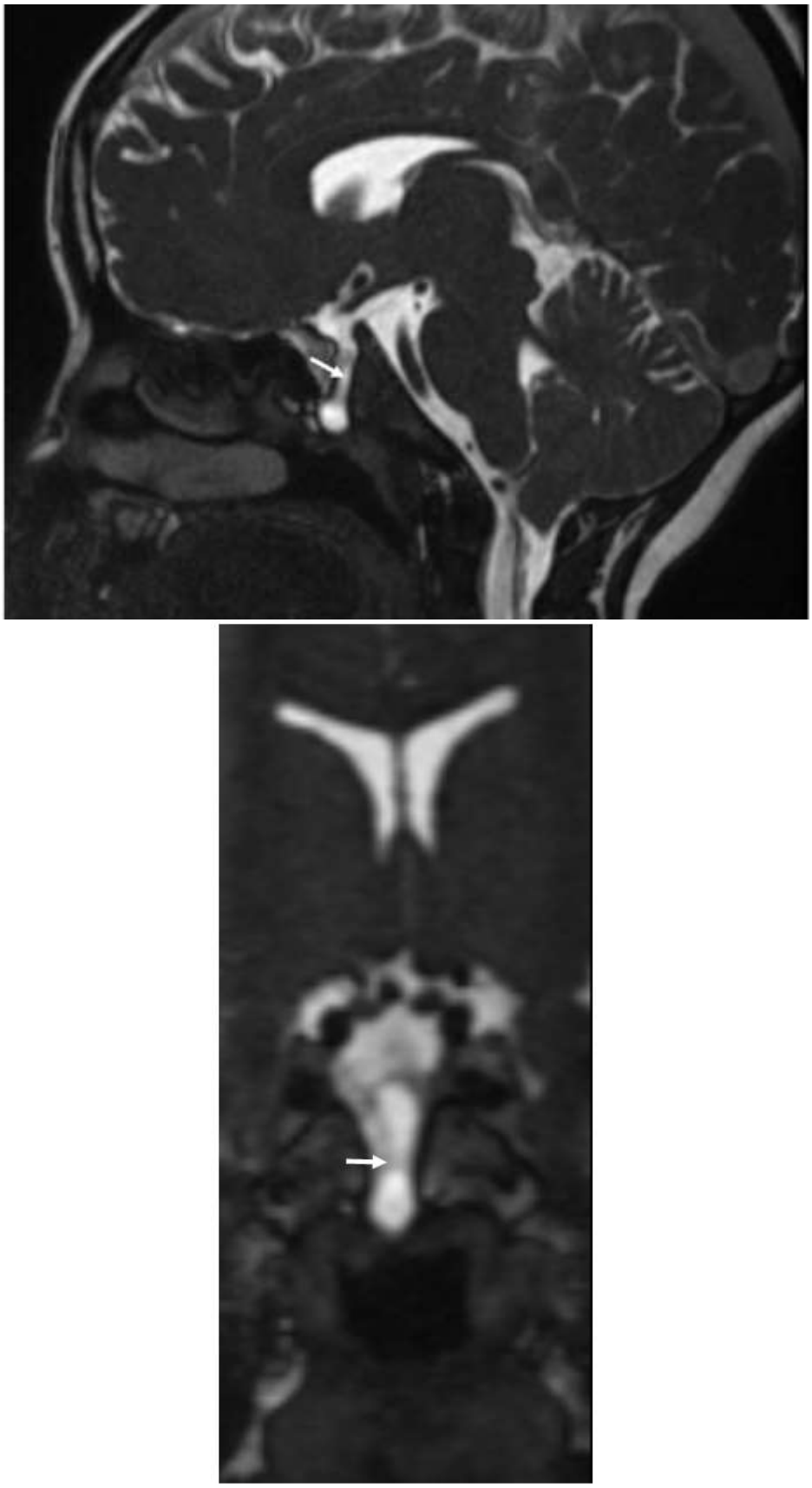


Figure 4

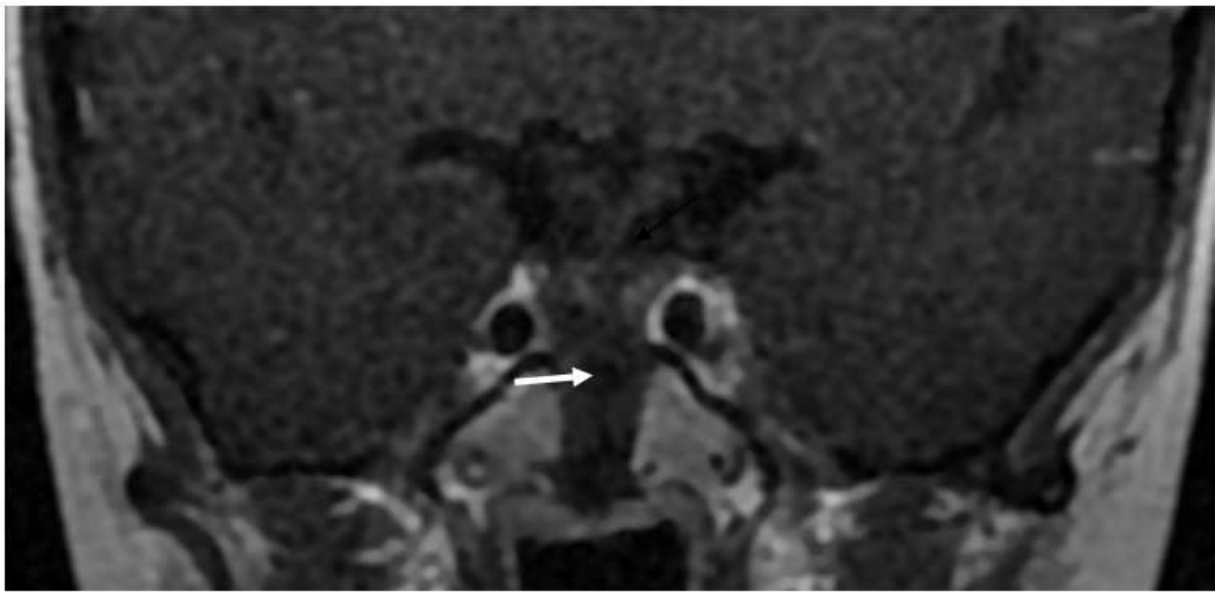
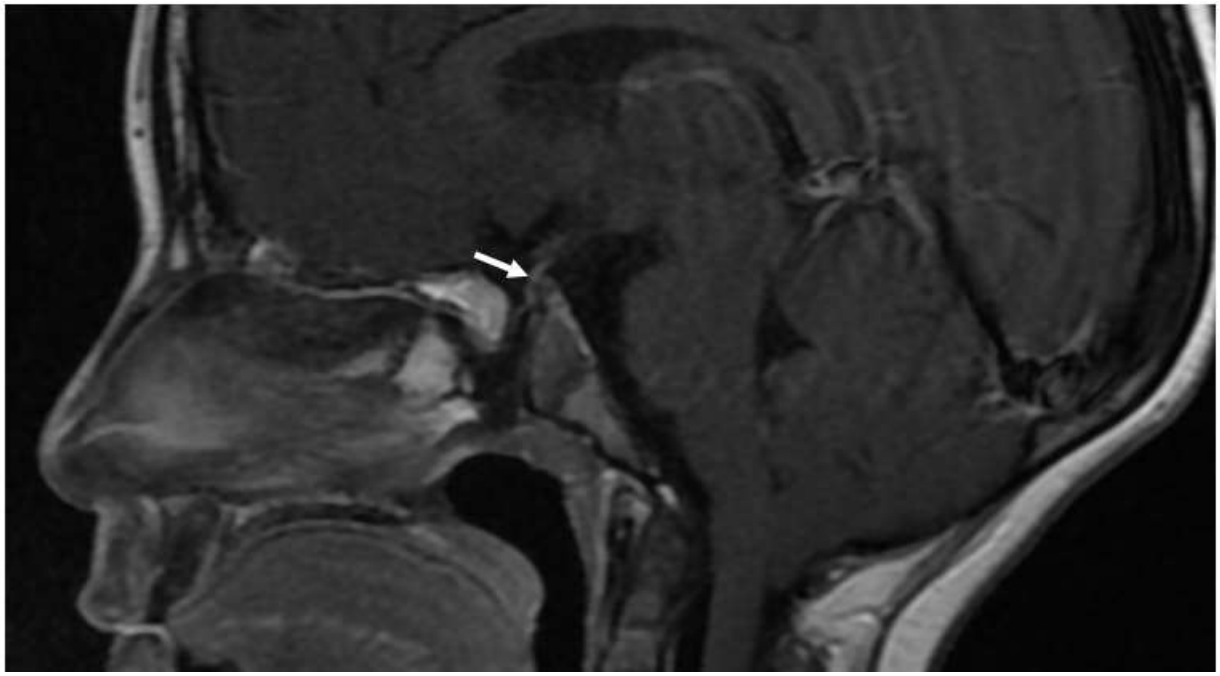


Figure 5,6



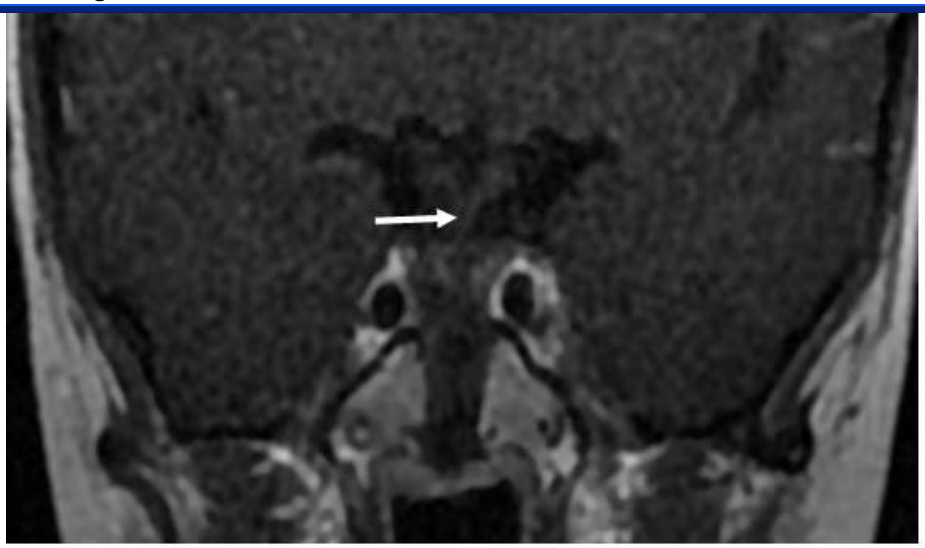
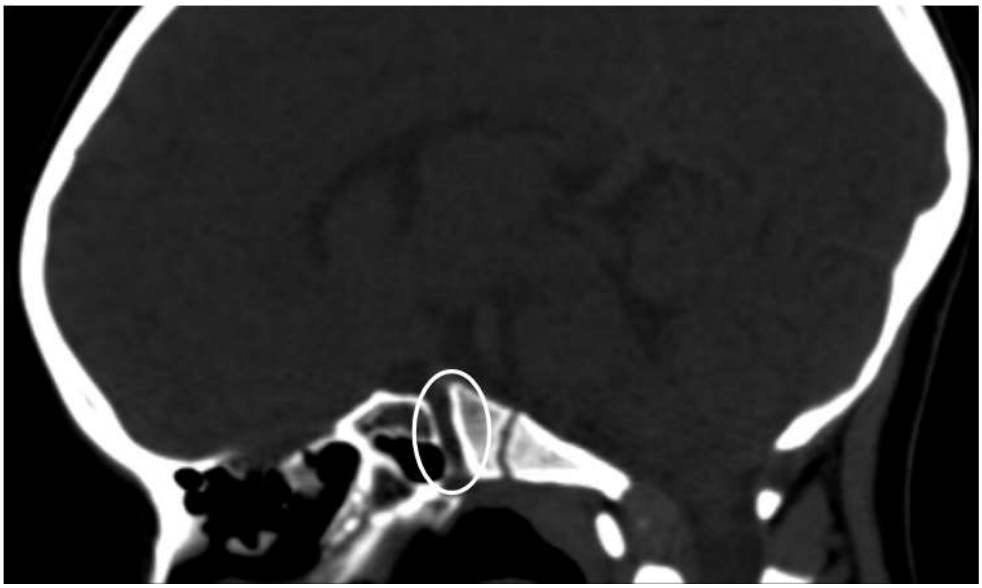


Figure 7



**Discussion:**

The cranio-pharyngeal canal exists at approximately 9 % of the newborn children [3]. It becomes extremely rare after the first month after birth. It is a canal that extends from the floor of the pituitary fossa more or less far into the interior of the bone. This canal, known as the median cranio-pharyngeal canal by Landzert, and the pituitary canal by Calori, is complete, it opens into the pharynx, according to Landzert, in about 10% of newborns and contains usually an extension of the dura mater, connective tissue, some blood vessels, chiefly veinlets. When it is incomplete the duremerien prolongation and the blood vessels which they contain end in cul-de-sac; When it is complete, the above-mentioned prolongation continues with the fibrous tissue which lines the lower surface of the sphenoid, and the vessels included in the interior of this prolongation, with the vessels of the periosteum and mucous membrane of the upper part of the pharynx.

The history of the cranio-pharyngeal canal is closely related to that of the pituitary, which explains the fact that it is often associated with pituitary malformations. Several hypotheses have been made about its origin. The principal affirms that the cranio-pharyngeal, or pituitary canal is a remainder of the solution of continuity, which makes communicate the cranial and pharyngeal cavities in the human embryo, beyond the half of the intrauterine life, and in which the diverticulum of the prepharyngeal ectodermal sinus passes, and at the expense of which the anterior lobe of the pituitary gland is born.

Clinically, it is manifested by a staturo-weight retardation, and signs of hypopituitarism, which can be iatrogenic. L HUGHES reported the case of two patients who benefited during their childhood of a resection of obstructive nasophryngeal masses taken for adenoid vegetations. With the discovery of the pituitary tissue at the histology, and a persistent cranio-pharyngeal canal, without visualization of the anterior pituitary in imagery. These patients presented pituitary deficiency, with a staturo-weight retardation, secondary to the iatrogenic resection of a pharyngeal pituitary.

The imaging allows to classify this malformation in 3 types, according to the size and the associated pathology. CCP of small size (type 1), medium-sized PCC, containing the anterior pituitary (type 2). (Type 3) associated with a cephalocele (type 3A), a tumor (type 3B), both (type 3C). This classification has a therapeutic and prognostic implication. Type 2 and 3A are often accompanied by pituitary dysfunction, which must be looked for and treated by the clinician. Diagnosis of type 3 is important to the surgeon, to avoid hypopituitarism following the resection of the pituitary gland, or an iatrogenic meningeal breach, causing recurrent meningitis

**Conclusion:**

The persistence of the cranio-pharyngeal canal is a rare congenital anomaly. The search for an associated pituitary malformative abnormality must be systematic.

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