

Case Report

Unilateral cerebellar calcification with surrounding gliotic changes in a child

Amit Agrawal^{1*}, Rafael Cincu² and Brij R Singh¹

¹Neurosurgery, Department of Surgery, Datta Meghe Institute of Medical Sciences, Sawangi (Meghe), Wardha, India.

²Department of Neurosurgery, Miguel Servet University Hospital, Zaragoza, Spain.

Accepted 07 January, 2019

Key words: Cerebellar calcification, gliotic, consciousness.

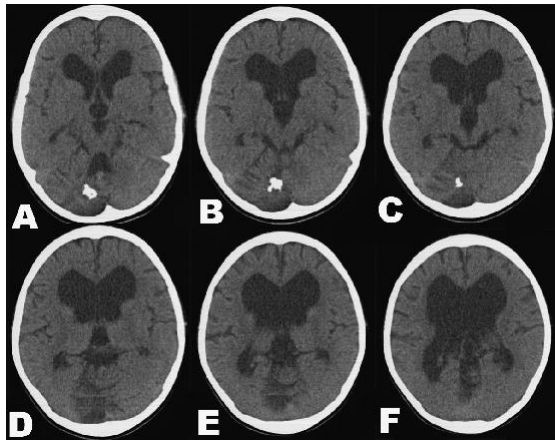


Figure 1. CT scan showing diffuse cortical atrophy, ventriculomegaly and calcification in right cerebellar hemisphere.

Calcification of the dentate nucleus of the cerebellum may be seen on cerebral CT in 0.3 - 0.5% of patients with no symptoms or extra-pyramidal signs (Prieto et al., 1997). A two year old child was presented with the history of fall. He had loss of consciousness for 10 min and one episode of vomiting. There was no history of seizures, ear or nasal bleed. His general and systemic examination was unremarkable. This child was conscious and alert. There were no focal neurological deficits. Plain CT scan showed dilated lateral, third and fourth ventricles with diffuse cortical atrophy and evidence of right cerebellar hemisphere and thick calcification in right cerebellar hemisphere (Figure 1). Details history revealed hypoxic damage at the time of delivery. Laboratory tests, hormone and

immunological studies were normal. The cerebellar calcification is usually described symmetrical and many causes have been identified including lead poisoning (Tonge et al., 1977; Graham et al., 1981; Benson and Price, 1985; Saal et al., 1978), familial (Prieto et al., 1997), parathyroid function changes, calcium-phosphorus metabolism disturbances (Fahr syndrome), (Kulczycki et al., 1994; Ziaber et al., 1993) and tuberous sclerosis (Schafer et al., 1975). Cerebellar calcification may be a form of benign intracerebral calcification and well described in previously healthy patients with normal laboratory studies and normal neurological examination (Koller et al., 1980; Shirane et al., 1983). Computerized tomography in this patient may not show any abnormal findings except gliotic tissue surrounding the calcification (Koller et al., 1980; Shirane et al., 1983). In present case the calcification was unilateral on the probable site of ischemic damage represented by gliotic changes.

REFERENCES

- Benson MD, Price J (1985). Cerebellar calcification and lead. *J. Neurol. Neurosurg. Psychiatr.* 48: 814-818.
- Graham J, Jayasinghe L, Baddeley H (1981). Cerebellar calcification. *Diagn. Imaging.* 50(2): 99-106.
- Koller WC, Klawans HL (1980). Cerebellar calcification on computerized tomography. *Ann. Neurol.* 7(2): 193-194.
- Kulczycki J, Boguslawska-Staniaszczyk R, Kozlowski P (1994). [The image of intracerebral calcification in CT and MR studies. A case report of Fahr syndrome][Article in Polish] *Neurol. Neurochir. Pol.* 28(6): 915-920.
- Prieto JM, Pardellas H, Sobrido MJ, Lema M, Dapena D, Castro A (1997). [Familial strio-pallido++dentate calcification] [Article in Spanish]. *Rev. Neurol.* 25(144): 1213-1215.
- Saal JR, Coombe IF, Thomas BW, Tonge JI, Burry AF (1978). Cerebellar calcification--ultrastructure and histochemistry. *Pathology.* 10(4): 351-363.
- Schafer JA, Berg BO, Norman D (1975). Cerebellar calcification in tuberous sclerosis. *Arch. Neurol.* 32(9): 642-643.
- Shirane R, Takahashi S, Sonobe M, Kubota Y, Shibasaki S (1983). [Case of multiple calcifications of the cerebellar hemisphere] [Article in Japanese] *No Shinkei Geka.* 11(5): 499-502.
- Tonge JI, Burry AF, Saal JR (1977). Cerebellar calcification: A possible

*Corresponding author. E-mail: dramitagrawal@gmail.com, dramit_in@yahoo.com. Tel.: +91-7152-240129, 243073. Fax: +91-7152-2231902

marker of lead poisoning. Pathology. 9(4): 289-300.
Ziaber J, Zientarski B, Bogusławska-Staniaszczyk R (1993). [Calcification of the basal ganglia and cerebellum][Article in Polish] Neurol. Neurochir. Pol. 27(5): 721-728.