Giant Choroid Plexus Cyst as an Accidental Finding in an Older Man

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ABSTRACT

Choroid plexus cysts (CPC) are usually found at the end of the second trimester of pregnancy. Sometimes they can be accidentally found on prenatal ultrasound examinations. Vast majority of CPC resolve spontaneously by 28th weeks gestation. In the older aged group the choroid plexus cysts are extremely rare pathomorphologic medical entity. Since they are almost always asymptomatic, they are therefore accidentally found on brain magnetic resonance (MR) or computed tomography (CT) scans. They are usually located in the lateral ventricles and measure around 2 cm in diameter. We present a case of a 75-year old male with a giant choroid plexus cyst whose leading symptom was excruciating headache refractory to previous conservative therapy. He underwent surgery when osteoplastic craniotomy was performed with cyst fenestration and ablation. His recovery was uneventful with total regression of headaches. Reviewing the recent literature we did not find such a case considering the patients age and the size of the choroid plexus cyst.

Key words: brain, choroid plexus cyst, headache, surgery

Choroid plexus1 (CP) is a structure found in the ventricles of the brain that produces cerebrospinal fluid. It develops from proliferation of the ependima at an early ontogenic stage2. Differential growth in the rhombencephalon during fifth gestational week results in formation of the pontine flexure which became transversely creased2,3. Within this crease, or plica choroidea, the choroid plexus will develop4.

CP is made up of a network of capillary blood vessels covered by transporting epithelial cells. Sometimes the cerebrospinal fluid becomes trapped and forms pockets5 in the choroid plexus and those pockets are then called choroid plexus cysts (CPC)6. CPC are seen in 1–3% of all mid-trimester prenatal ultrasound examinations1,3. The CPC may be seen in one or both sides of the brain, and generally have no effect on fetal development. On a large series of 1800 fetal ultrasound examinations at the Department of Obstetrics and Gynecology in the Charritte hospital in Berlin, Bolleman and colleagues7 have found eleven CPC. Choroid plexus cysts are believed to be caused by abnormal folding of the epithelium lining of the choroid plexus which traps fluid and debris2,3.

Even though CPC do have a weak association with fetal chromosome abnormalities, they are most strongly associated with trisomy 18 (Edward syndrome)8–10. Trisomy 18 is a disorder characterized by severe mental retardation and multiple abnormalities, such as cleft lip and palate, micrognathia, low set ears, club feet, clenched fists, intrauterine growth restriction, single umbilical artery, polyhydramnios and kidney abnormalities. More than 90% of such fetuses have an associated heart defect. The condition is not compatible with life, and only 5 to 10% of infants survive the first year after delivery. As an incidental finding they can be found in the newborns with neonatal theratomas and higromas11. More than 90% of CPC resolve spontaneously by 28th weeks gestation, and once resolved, the cysts do not recur. Rarely very large cysts may cause obstruction of the cerebrospinal fluid which may need surgical treatment after the infant is born. When an isolated CPC is detected on examination the American College of Obstetricians and Gynecologists recommends amniocentesis is necessary only if serum screening results are abnormal or the patient is older than 32 years at delivery9.

CPC in the middle aged and especially in the older aged people are extremely rare pathomorphologic medical entity and they rarely may be large enough to cause any symptoms. Since they are almost always asymptom-
atic, they are therefore accidentally found on brain magnetic resonance (MR) or CT scans. Small asymptomatic cysts of the choroid plexus are a frequent incidental finding at necropsy\textsuperscript{12,13}. They are usually located in the lateral ventricles but sometimes may be found also in the fourth ventricle. Their size usually does not extend beyond 1.5–2 cm in diameter which was also true in the research of Tamura\textsuperscript{12} and colleagues who made an autopsy on patients with malignant tumors of choroid plexus.

A 75-year old male was admitted at our Department of Neurosurgery due to the excruciating headaches\textsuperscript{14} which lasted for couple of months and were refractory to previous conservative therapy with common painkillers. A brain CT scan revealed a large choroid plexus cyst measuring 70.2 x 47.4 x 56.7 mm in the left temporoparietal region with the compression of the adjacent lateral ventricle (Figure 1). After a complete neuroradiological evaluation, the patient underwent surgery. A left sided temporoparietal osteoplastic craniotomy was performed followed by semicircular dural incision and corticotomy. After entering in the lateral ventricle the cyst was totally resected and removed in the microsurgical manner. The dura was closed in watertight manner to prevent the cerebrospinal fluid leak and the bone was replaced and fixed (Figure 2). A pathohystological analysis of resected cyst revealed fragments of a cyst wall covered by a single row of cuboidal cells folded into villi, at luminal surface, resembling choroid plexus epithelium. Epithelial cells displayed extensive EMA and S-100 immunoreactivity (Figure 3). The patient’s postoperative recovery was uneventful with total regression of headaches.

In the end we would like to emphasize once more that while reviewing the recent literature we did not find such a case of a choroid plexus cyst considering the patient’s age and the size of the cyst.

**REFERENCES**

GIGANTSKA CISTA KOROIDNOG SPLETA KAO SLUČAJAN NALAZ U STARIJEG MUŠKARCA

SAŽETAK

Ciste koroidnog pleksusa kao morfološki entitet vežu se za kraj drugog trimestra graviditeta. Kao slučajani nalaz znaju se pronaći prilikom ultrazvučnog pregleda ploda kod trudnica. Tijekom sazrijevanja ploda najveći broj cisti koroidnog pleksusa spontano regredira. Ciste koroidnog pleksusa u osoba odmakle životne dobi, su izrazito rijedak morfološki entitet. U pravilu su asimptomatskog tijeka i nađu se kao rijedak patomorfološki supstrat pri snimanju mozga kompjuteriziranom tomografijom (CT) ili magnetnom rezonancijom (MR). Najčešće su smještene u postranih moždanim klijetkama. Kod osoba starije životne dobi obično se kao usputni nalaz nađu na patološkim obdukcijama i veličine su 1.5 do 2 cm. Nalaz gigantske ciste koroidnog pleksusa u osoba starije životne dobi je raritetan nalaz. U našem slučaju radilo je o starijoj muškoj osobi u dobi od 75 godina. Osnovni i vodeći simptom bila je glavobolja refraktorna na konzervativno liječenje. Pacijent je operiran te je učinjena ablacija ciste i osteoplastična kraniotomija. Poteškoće u vidu glavobolja su poslije operacije u potpunosti regredirale. Pregledom novije medicinske literature nismo naišli na takav slučaj ni s obzirom na visoku bolesnikovu dobi, ni s obzirom na veličinu ciste koroidnog pleksusa.