

# A Mediastinal Goitre Case That Moving Upward To Neck during a Cystoperitoneal Shunting Operation



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**Abbreviations:** AC: Arachnoids Cysts; CSF: Cerebrospinal Fluid; MG: Meditational Goiter; MRI: Magnetic Resonance Imaging; CT: Computerized Tomography

## Materials and Methods

Arachnoids cysts (AC) are non-tumoral and congenital lesions and constitute 1% of all intracranial space occupying lesions [1]. Ninety percent of ACs is located in the supratentorial region and 10% are in the posterior fosse [2]. The middle cranial fosse is the most common place of the ACs (60%) other sites include seller region, cerebral convexity, and quadrigeminal plate. The clinical signs and symptoms of ACs are relegated with their size, anatomic location and influence on the cerebrospinal fluid (CSF). Symptomatic ACs is usually diagnosed in the first or second decades of life due to increased intracranial pressure, craniomegaly or developmental delay. The definition of meditational goiter (MG) generally refers to a stoma with location for at least 50% of its volume in substernal position [3]. MG is a rare disease that generally diagnosed incidentally, and up to 40% of MGs are asymptomatic [4]. They may cause compressive symptoms in the surrounding tissues if they are large enough.

## Case Report

A sixtyeight year old right handed woman was admitted to our clinic with headache which increased for last six months and seizure complaints. Physical examination of the patient's head, neck and abdomen were normal. Neurologic examination did not show any abnormalities. We check both the thyroid hormones and thyroid stimulation hormone levels routinely before operation and were normal. Computerized tomography (CT) and contrast enhanced magnetic resonance imaging (MRI) showed a 56x48x90 mm in size cystic lesion on the right occipital lobe of the brain which has very close relationship with the posterior pole of right lateral ventricle. The cyst did not enhanced after contrast media injection and reported as an AC. A right Cystoperitoneal shunting operation was planned. After entubation of the patient, a pillow was placed under the shoulders to provide extension to the neck.

In a few minutes after positioning of the patient, a lump in 4x5 cm size appeared on the right anterolateral side of the neck, and the anesthesiologist said the patient had difficulty in ventilation. Ultrasonographic examination was performed in operating room and showed a nodule 43x66x78 mm in size which moved from right lobe of thyroid to the retrosternal region. The operation has cancelled, and position changed to normal which caused disappearing of the lesion. The patient extubated and detailed endocrinology and radiologic examination were planned. The patient consulted by general surgeon and they decided to operate the patient before cysto-peritoneal shunt operation.

## Discussion

ACs can be congenital (true AC) or secondary. True AC contains CSF filled cavity that surrounded by arachnoid sheet. Secondary cyst usually occurs after inflammation, trauma, hemorrhage, tumors and surrounded by arachnoid scarring [5], [Cincu 6,7]. Asymptomatic ACs can be followed conservatively if they do not have progressive symptoms and signs like headache, epileptic seizure, ataxia, hemiparesis and hydrocephalus due to mass effect and altered CSF circulation [1,6-8]. Asymptomatic ACs can be followed up with CT or MRI examination for one or two times in a year [1,6-8]. Some of the primary ACs may enlarge and necessitates surgical treatment due to mass effect or CSF pathway obstruction. Although there is some controversy over the best treatment of ACs, they are most commonly treated with cyst fenestration to the subarachnoid space by microsurgical or endoscopic way or Cystoperitoneal shunting [9,10]. MG is thyroidal disorder and would make deficit in thyroid hormones.

When it reaches large dimension in mediastinum may cause compressive symptoms in both trachea and esophagus. The

majority of the patients with MG have symptoms including neck mass, shortness of breath, hoarseness, dysphasia, pericardial effusion, very rarely vena cava superior and Horner's syndrome [11]. Twenty percent of the patients may have hyperthyroidism [12]. MG may have mass effect on neurovascular structures with some provocative maneuvers which is called Pemberton sign [13]. The Pemberton maneuver is a physical examination method that elicits manifestations of latent increased pressure in the thoracic inlet by alerting arm position to further narrow the aperture. The maneuver involves 'elevating both arms until they touch the sides of the head'; if the sign is present 'after a minute or so, congestion of the face, cyanosis, and lastly distress become apparent [13]. We detected moving up of the MG toward to neck when the neck of the patient had extension due to increased intrathoracic pressure, so became apparent in our patient [14-16].

## Conclusion

The association of MG and symptomatic AC is very rare. It is important to realize the presence MG in the absence of clinical and biochemical symptom and sign of thyroidal disease which may affect treatment procedures due to different position and manipulation of the patient.

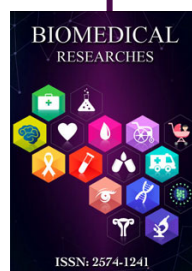
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