

## Hydrocele of canal of nuck in a young female: A rare case report

Surya Saini<sup>1</sup>, Rajan Sood<sup>2</sup>, Shailendra Kaushik<sup>3\*</sup>

<sup>1</sup> Medical officer Specialist, Department Of Paediatrics, Dr. Yashwant Singh Parmar Government Medical College & Hospital, Nahan, Himachal Pradesh

<sup>2</sup> Assistant Professor, Department Of General Surgery, Dr. Yashwant Singh Parmar Government Medical College & Hospital, Nahan, Himachal Pradesh

<sup>3</sup> Assistant Professor, Department Of General Surgery, Dr. Yashwant Singh Parmar Government Medical College & Hospital, Nahan, Himachal Pradesh

### Abstract

Hydrocele of canal of Nuck is a rare condition seen in females, commonly in the younger age group. The canal of Nuck is an extension of peritoneum into the inguinal canal through the deep ring, analogous to the processus vaginalis in males. Incomplete proximal obliteration and collection of serous fluid in the sac leads to the formation of a hydrocele of canal of Nuck. Here we present a rare case of hydrocele of canal of Nuck in an adult female.

**Keywords:** hydrocele, nuck, extension, adult female

### Introduction

The round ligament of the uterus is fibro-muscular connective tissue. It appears like a round band of rope. One side of the round ligament is attached to the superior and lateral aspect of the uterus at the cornu. From the cornu of the uterus, the round ligament crosses the pelvis through the deep inguinal ring which then traverses the inguinal canal and then enters the labia majora, where it terminates with its fibres blending into the mons pubis [3]. The round ligament is covered by folded peritoneum, which traverse through inguinal canal called the canal of Nuck which is counter part of process vaginalis in males. Normally it gets obliterated but if remain patent it leads to different clinical entities. One of which is encysted hydrocele of canal of Nuck which commonly present in pediatric age group but in our patient it presented in adulthood which is a rarity.

### Case Report

A 28 years old married woman presented with swelling in her right groin for 5 months. This swelling was initially of the size of small lemon but gradually increased in size over the period of time to 6cmsx5cms. It was not associated with pain and other signs of sub-acute obstruction. Swelling was irreducible and fluctuant with no cough impulse and transillumination. Skin over swelling was normal. Past history of being operated for bilateral ovarian cysts around 8 years ago was present by lower mid-line incision, however no histopathological report was available. Differential diagnosis of mesothelial cyst of round ligament, cystic lymphangioma, epidermal inclusion cyst, cold abscess, varicosity of round ligament and endometriosis of round ligament was entertained.

Ultrasound revealed a well-defined tubular cystic structure with clear contents in right inguinal canal up to labia majora measuring 5cmsx3.5cmsx5cms (Image No.-1) with volume of 50-60ml. Color Doppler revealed avascular cystic structure. Size and contents of the cyst are not increasing on Valsalva maneuver.

At surgery through an inguino-labial incision the cyst was dissected by blunt and sharp dissection from round ligament in inguinal canal, the neck of the sac was extending up to deep ring (Image No.-2). The sac measured about 5cms (Image No.-3). Clear fluid was found on opening the sac. Histopathology revealed flat mesothelial cells.



Fig 1



Fig 2



**Fig 3**

### Discussion

Over secretion or the under absorption of the peritoneal fluid by the secretory lining of the processus vaginalis may lead to the formation of the cystic swelling. The etiological factors responsible for such cystic swelling are mostly idiopathic and other causes are inflammation, trauma, impairment of lymphatic drainage and meconium hydrocoele [2]. Clinically, a hydrocoele of canal of Nuck can appear wither as a painless or a moderately painful fluctuant inguinal mass. These mass do not have any cough impulse, irreducible and if large enough can be trans-illuminated. Traction test which can be demonstrated in males for clinical confirmation, can't be elicited in females. It is not easy to diagnose this entity on clinical findings alone. When the peritoneal pocket remains completely patent, it forms a route for an indirect inguinal hernia. Partial proximal obliteration, which leaves the distal portion of the processus vaginalis open, creates the anatomic pre-requisite for a hydrocoele of the canal of Nuck [4-6]. Hydrocoele of the canal of Nuck should be treated by surgical excision of the mass without puncturing it. Aspiration of a hydrocoele of the canal of Nuck is inadequate and results in high recurrence rates. When it is complicated by endometriosis, excision of both the mass and uterine round ligament is necessary [1, 4, 6].

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