CASE REPORT

Hygroma in a 23-year-old man

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SUMMARY

We describe a 23-year-old man with a cystic hygroma on the right side of his lower neck. Cystic hygromas are uncommon congenital lesions of the lymphatic system and are often diagnosed before the age of 2. The finding of a cystic hygroma is rare in adults. We report the results regarding a cystic hygroma in a 23-year-old man. An initial physical examination was performed, followed by an ultrasound examination and CT. Surgical excision was the treatment of choice. Adequate imaging and physical examination of lateral neck masses in adults are needed to confirm the diagnosis.

BACKGROUND

Cystic hygroma is a benign congenital cystic mass that commonly occurs in the neck. Other common, as well as rare, congenital cervical cysts are thyroglossal duct cysts or branchial cleft cysts and thymic or cervical bronchogenic cysts.¹ A cystic hygroma develops as a result of a malformation of the lymphatic system.²⁻³ Patients with an abnormal development of the lymphatic system, who develop a cervical cystic hygroma have an obstruction between the venous and lymphatic pathways. Owing to the fact that lymph drainage from the affected area is not possible, lymph accumulates in the jugular lymphatic sacs in the nuchal region.²⁻³

The clinical diagnosis of a cystic hygroma can be obtained by physical examination. An ultrasound examination and CT are needed to confirm the clinical diagnosis.¹ The treatment of cystic hygromas in the cervical area is surgical excision under general anaesthesia. It is important to address possible complications such as wound infections, respiratory obstruction, nerve damage and the chance of recurrent disease after surgery. In case of incomplete excision antibiotic prophylaxis is needed to reduce the incidence of wound infections.²⁻⁴

CASE PRESENTATION

We report a case of a healthy, physically active, 23-year-old Caucasian man who presented himself at our outpatient department with a slowly enlarging cervical swelling at the right side of the neck. The swelling caused no symptoms and there were no other significant medical problems or a history of trauma to the neck. Physical examination showed a smooth, soft swelling with an elastic aspect. Furthermore there was no erythema, warmth or tenderness on palpation, which ruled out infectious disease. Neurological examination was normal.

INVESTIGATIONS

To support the clinical diagnosis an ultrasound examination and CT were performed. Ultrasound examination of the right lower neck mass showed a fluid collection with several partitions just above the trapezius muscle. CT showed a cyst-like structure of 9.5×7.6×8.0 cm. The cyst was located supraclavicular. CT also showed the presence of several partitions at the location of the anomaly. The anomaly had a benign impression and was diagnosed as a cystic hygroma based on anatomical location and aspect (see figures 1 and 2).

TREATMENT

On the basis of the wish of the patient and the combined results of physical examination and imaging techniques we decided to excise the cervical cystic hygroma. During surgery complete cyst excision was achieved without complications. Figure 3 shows the excision of the cystic hygroma during surgery.

OUTCOME AND FOLLOW-UP

Histological analyses identified a 4×3.5×2 cm elastic cyst and a smaller tissue piece of 4×2×1 cm. The tissue was dark brown in colour on the outside alternated with a blue translucent colour. Besides histological analyses immunohistochemical analyses were performed. Lymphangioma in combination with a haemangioma were found. The histological and immunohistochemical findings

Figure 1 CT of the cystic hygroma in a 23-year-old man with a right lower neck mass.

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Figure 2 CT of the cystic hygroma in a 23-year-old male with a right lower neck mass.

were consistent with the diagnosis of cystic hygroma. The patient recovered quick and without any complications. After 8 months of follow-up there is no evidence of recurrence disease.

DISCUSSION

Cystic hygromas are congenital malformations of the lymphatic system.^{2 3 5} In 75% of the cases they are located in the head and neck region. Thereby cystic hygromas are generally diagnosed during childhood, before the age of 2 (90%). The finding of a cystic hygroma is rare in adults. No differences in prevalence between men and women have been reported.⁵⁻⁹

Literature shows that a cystic hygroma is a congenital malformation; however, physical injury could cause the formation of a cystic hygroma as well. Triggers such as physical injury or infection could cause cystic hygroma in adults, due to the stimulation of proliferation of cell rests.

Figure 3 Excision of the cystic hygroma in a 23-year-old man with a right lower neck mass.

Adults with cystic hygroma seem to have a delayed proliferation of lymphoid cell rests.^{5 6 8-10} Three subtypes of cystic hygromas have been described in the literature. All of the three different subtypes can be present in the same lesion. The first subtype is the capillary or simplex lymphangioma. The characteristic channels of this subtype are small and thin-walled. The second subtype is the cavernous lymphangioma, which contains fibrous, adventitial coats and larger, thin-walled channels than the capillary lymphangioma. The third subtype is called the cystic lymphangioma (hygroma) and contains flattened endothelium along with large cystic spaces. Most of the adults who present with the largest subtype among the lymphangiomas, thus they present with the cystic hygroma.^{8 9}

Clinically, cystic hygromas present in asymptomatic adults. Physical and ultrasound examination shows a smooth, soft, mobile, transilluminable and non-tender lesion. CT or MRI can clarify the anatomical relations or invasiveness of the lesion and determine specific tissue the lesion contains. In general the lesion is non-invasive, homogeneous and encapsulated. The cytological characteristic of cystic hygroma is the presence of clear fluid with lymphocytes, histiocytes and a proteinaceous debris.⁸ With the help of this knowledge histological and immunohistochemical analyses via fine-needle aspiration can contribute to the correct diagnosis. Since cystic hygroma is a benign diagnosis expectative policy as well as surgical excision could be the treatment of choice. In general after surgery recurrence in adults is seen within a year. If residual tumour was left behind during surgical excision the recurrence rate of cystic hygroma is 10–15%.^{8 9}

In summary, we report a rare case of a cervical cystic hygroma at the right side of the neck in a 23-year-old man. In the literature, only a handful of cases of cystic hygroma in adults were previously reported. In this case report the physical, radiological and histopathological findings of this uncommon finding in adulthood are described.

Learning points

- ▶ Cystic hygromas are uncommon congenital lesions, mostly located in the head and neck region.
- ▶ Cystic hygromas are up to 90% diagnosed before the age of 2, thus finding a cystic hygroma in adults is rare.
- ▶ Three subtypes of cystic hygromas have been described. The capillary or simplex lymphangioma, the cavernous lymphangioma and the cystic lymphangioma (hygroma).
- ▶ Diagnosis can be established through physical examination, ultrasound examination and CT.
- ▶ Surgical excision as well as expectative policy could be the treatment of choice for cystic hygroma.

Competing interests None.

Patient consent Obtained.

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