Urology Case Reports 2 (2014) 169–170

Contents lists available at ScienceDirect

Urology Case Reports

journal homepage: www.elsevier.com/locate/eucr

Andrology and Fertility

Ectopic Adrenocortical Tissue in the Spermatic Cord in a 44-Year-old Man☆

Gautier Müllhaupt [a], Livio Mordasini [a], Tobias Gramann [a], Vera Ertel [b], Hans-Peter Schmid [a], Dominik Abt [a,*]

[a] Department of Urology, Cantonal Hospital, St. Gallen, Switzerland
[b] Department of Pathology, Cantonal Hospital, St. Gallen, Switzerland

ARTICLE INFO

Article history:
Received 4 May 2014
Accepted 27 May 2014
Available online 25 June 2014

Keywords:
Ectopic adrenocortical tissue
EACT
Spermatic cord
Adult

ABSTRACT

We report on a 44-year-old man who underwent microsurgical inguinal repair for symptomatic varicocele. As an incidental finding during surgery, a yellowish tumor (9 × 5 × 4 mm) was found in the spermatic cord. Histologic examination revealed ectopic adrenocortical tissue. Ectopic adrenocortical tissue in the spermatic cord is known to appear in children and adolescents but is extremely rare in adults. Surgical removal of the tissue is recommended, although malignant transformation or functional hormonal disorders are very unlikely.

Introduction

First described in 1740 by Morgani,[1] the appearance of ectopic adrenocortical tissue (EACT) in the spermatic cord has occasionally been reported in children and adolescents. Sullivan et al[2] assessed the incidence of EACT in the groin of children and examined the relationship between the appearance and underlying diagnosis, age, and sex. Of 935 groin explorations, EACT was identified in only 25 children (2.7%). There were no cases in girls, and the occurrence declined with increasing age. Published case reports of EACT in adults are extremely rare.[3,4]

Case presentation

Our 44-year-old patient had the typical signs and symptoms of symptomatic varicocele. Inguinal microsurgical repair according to Ivanisevic was agreed with him. After inguinal exposure of the spermatic cord, we found a bright yellowish soft nodule (9 × 5 × 4 mm), clearly different in color and consistency from the surrounding tissue. It was completely resected because a definitive assessment of the tumor could not be made intraoperatively. Histologic examination revealed EACT (Figs. 1, 2). No further examinations or follow-ups were necessary, because the patient had normal adrenal function and was asymptomatic.

Discussion

Embryologically, adrenal cortex arises from the mesoderm, whereas adrenal medulla develops from ectoderm of the neural crest. During the fourth and fifth week of gestation, primitive cortex originates from mesothelial cells between the mesentery root and the developing gonads, which are proliferating and separating in the mesenchyme of the dorsal abdominal wall. Subsequently, neighboring cells are added to form the definitive cortex, and medulla is formed by invasion of cells from the neural crest. It can be assumed that adrenal residues develop because of mechanical separation and that dislocation can occur as a result of the descent of the sex glands in male embryonic development.[5] It is assumed that EACT (also called the Marchand rest or Marchand adrenals) may be common in newborns, but is very rare in adults, because the tissue becomes atrophic during adolescence and adult life.[4]

Hormonal dysregulations because of EACT or malignant transformation of aberrant adrenal tissue seem to be extremely unusual.[6] EACT appearing as yellowish nodules embedded in cremasteric fibers, seldom >5 mm, is usually discovered by chance during surgery.[4] Most authors agree that such lesions should be removed during surgery and that excessive surgical preparation of the spermatic cord should be avoided.[2,3,5]

* Corresponding author. Tel.: +41-0-414941418; fax: +41-0-414942891.
E-mail address: dominik01.abt@kssg.ch (D. Abt).

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http://dx.doi.org/10.1016/j.eucr.2014.05.009

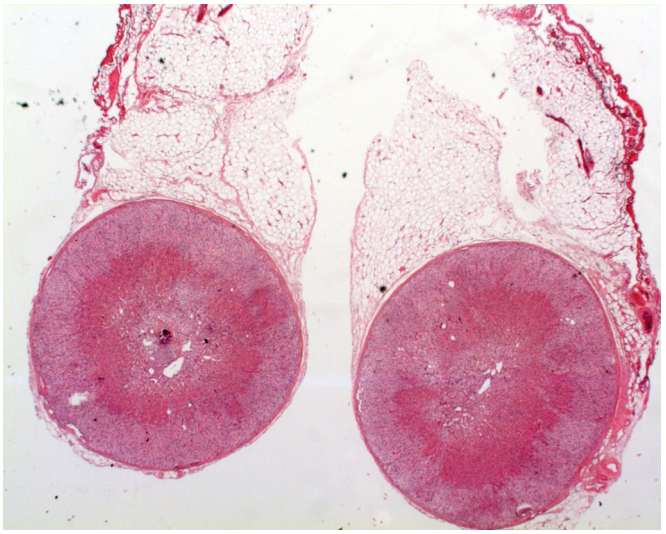

Figure 1. Encapsulated ectopic adrenal tissue with central calcification and adherent adipose tissue (hematoxylin and eosin stain, ×1.25).

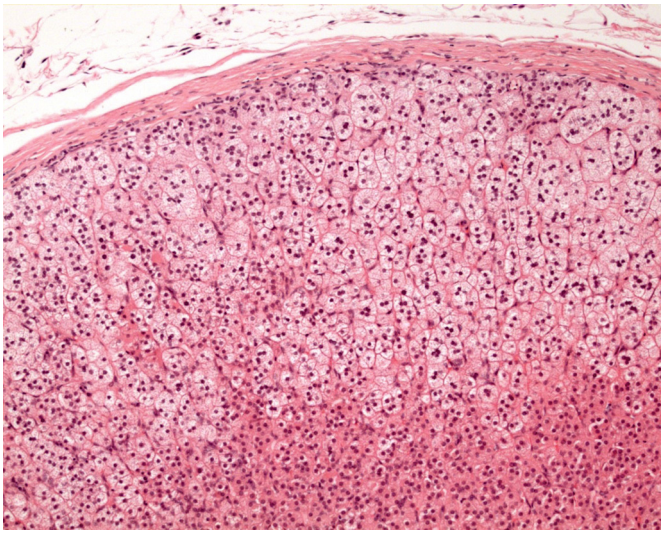

Figure 2. Higher magnification of adrenal cortex consisting of capsule and glomerular, fascicular, and reticular zones (hematoxylin and eosin stain, ×10).

Conclusion

EACT in the spermatic cord is extremely rare in adults and may be found more frequently in children and adolescents. If found during surgery, lesions should be resected for histologic verification, but meticulous care must be taken not to damage the spermatic cord.

Consent

The author retains written patient consent and copies of the consent can be provided to Elsevier on request.

Conflict of interest

None of the authors have any financial or personal relationships with other people or organizations that could influence their work.

Acknowledgment

Thanks to Alistair Reeves for editing the text.

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