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# Shadow Cell Differentiation in Testicular Teratomas. A Report of Two Cases

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## Summary

Two cases of adult testicular teratoma with shadow cell differentiation (SCD) similar to that seen commonly in pilomatrixoma are presented. The patients aged 21 and 27 years, and both tumors were limited to the testis. The differentiation of squamous epithelium toward shadow cells is well known in cutaneous pilomatrixoma and related lesions, some odontogenic tumors, craniopharyngeoma, and it was recently observed in several visceral carcinomas. In testicular location, SCD was so far described in benign dermoid cyst but not in teratoma, suggesting that the occurrence of shadow cells could help in differential diagnosis between these lesions. This is, however, not the case and the distinction of teratoma from dermoid cyst must be based on other morphological findings.

**Key words:** testis - teratoma - dermoid cyst - pilomatrixoma - shadow cell differentiation

## Súhrn

**Diferenciácia do tieňovitých buniek ("shadow cells") v teratómoch semenníka. Popis dvoch prípadov**

Popísané sú dva prípady testikulárneho teratómu s fokálnou "shadow cell" diferenciáciou (SCD), ktorá je inak typická pre kožný pilomatrixóm. Vek pacientov bol 21 a 27 rokov a oba tumory boli limitované na testis. SCD bola doposiaľ známa v pilomatrixóme a iných kožných léziách, odontogénnych tumoroch, kraniofaryngeóme a niektorých viscerálnych adenokarcinómoch. V testis bola popísaná len v dermoidnej cyste, zatiaľčo v teratóme takéto pozorovanie chýbalo. Tento rozdiel mohol byť potenciálnou pomocou pri rozlíšení medzi dermoidnou cystou a teratómom s prevahou zrelých dermoidných štruktúr. Naše pozorovania však túto možnosť negujú a diferenciálna diagnóza medzi oboma léziami zostáva tak závislá na posúdení iných zmien (dermoidnú cystu favorizuje makroskopicky cystický vzhľad bez solídnych častí a histologicky chýbanie intratubulárnej neoplázie, atypie, mitotickej aktivity a prítomnosť nanajviš minoritnej non-dermoidnej zložky).

**Kľúčové slová:** testis - teratóm - pilomatrixóm - dermoidná cysta - "shadow cell" diferenciácia

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## Introduction

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So called "shadow" or "ghost" cells are distinctive necrotic keratinized cells that show preserved cell shape, small empty spaces left after disappearance of the nuclei and eosinophilic cytoplasm with yellowish brown to honey colored tinge (1, 8). They were described as a diagnostic feature in pilomatrixoma and other cutaneous tumors as well as in some odontogenic tumors and craniopharyngeoma (1, 3, 6, 7, 9). In recent years, the shadow cell

differentiation (SCD) was observed also in some visceral carcinomas (4, 16-18). In testicular location, it was described to date only in dermoid cyst and not in teratoma, which suggested that finding of SCD could help in differential diagnosis between teratoma and dermoid cyst. Adult teratoma is, in contrast with dermoid cyst, a fully malignant neoplasm (8, 15), and therefore this differential diagnosis is of substantial importance (7, 11, 14). Here, we present a finding of SCD in two adult teratomas of the testis. Our observations indicate that SCD is not helpful in differential diagnosis between dermoid cyst and teratoma.