**Canine seminomas - diferentiation into classical and spermatocytical seminomas**

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**Introduction**

Seminomas are one of the three most common dog testicular tumors. In humans, seminomas are classified into classical (CS) and spermatocytical (SS). CS are frequently diagnosed, mostly in young males, are derived from spermatogoonia, are c-KIT positive and malignant. SS are rarely diagnosed, mostly in older males, are derived from spermatocytes, are c-KIT negative and benign. There are only few references which discuss the possibility of differentiation canine seminomas into CS and SS. The aim of our study was to determine incidence of canine testicular neoplasia and confirm thesis that canine seminomas can be classified into CS and SS.

**Material and Methods**

Histopathological analysis of 59 biopsied dog testicles, in period between April, 2007 till January, 2011 was performed. Tumors were also analyzed using c-KIT immunohistochemical marker.

**Results**

A total of 57 (96.61%) testicles were neoplastic. Diagnosed tumors were (listed in order of decreasing frequency): seminomas, Sertoli cell tumors (SCT), mixed tumors (most frequently mixed SCT/seminomas, and Leydig cell tumors (LCT)/seminomas), LCT, simple intratubular germ cell neoplasia of undifferentiated origin, peripheral nerve sheat tumor and teratoma. c-KIT was expressed in 26.32% of all tumors with higher expression in germ cell tumors. c-KIT positive were 40.09% of seminomas, 44.44% of seminomatous components in mixed tumors and only diagnosed teratoma.

**Conclusion**

Different c-KIT expression in seminomas confirmed that canine seminomas can be, like human, classified into two groups: more prevalent c-KIT negativne SS and less prevalent c-KIT positive CS.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Vrsta tumora | Broj | % | c-kit + tumor /% | c-kit + cell/% | Dob | Dob c-kit + |
| Sem  Dif  it | 22  20  2 | 38,59  35,08  ,51 | 40,09  45,00  0 | 43,33  43,33  0 | 9,45  10,34  10,00 | 11,33  11,33  0 |
| Sct | 16 | 28,07 | 6,25 | 5,0 | 9,50 | 9,00 |
| lct | 5 | 8,77 | 0 | 0 | 11,25 | 0 |
| igcnu | 2 | 3,51 | 0 | 0 | 11,00 | 0 |
| pnst | 2 | 3,51 | 0 | 0 | 9,00 | 0 |
| teratoma | 1 | 1,75 | 100,00 | 20,00 | 11,00 | 11,00 |
| mix | 9 | 15,79 | 44,44 | 26,25 | 10,88 | 11,00 |
| ukupno | 57 | 100,00 | 26,32 | 36,67 | 10,26 | 11,08 |