

## SLAUGHTERHOUSE MONITORING OF CATTLE NEOPLASIAS ON SÃO MIGUEL ISLAND - AZORES

Pinto C.<sup>1</sup>, Geraldes M.<sup>1</sup>, Medeiros F.<sup>1</sup>, Pacheco P.<sup>1</sup>, Louzã A.C.<sup>2</sup>

*L'observation fréquente en clinique et à l'abattoir de vaches laitières avec hématurie, photosensibilisation et tumeurs de la peau, de la troisième paupière et de la muqueuse vésicale a conduit à l'étude rétrospective des registres de saisies totales pendant la période de janvier 1994 à mars 1997. La population cible de 15840 vaches adultes (plus de 2 ans) abattues montrait que 41% des saisies totales sont des cas de néoplasies (3,8% du total de bovins). Les plus fréquentes localisations tumorales sont la vessie (50,9%), l'oeil (20%) et la peau (15,7%). L'introduction de l'examen systématique de la muqueuse vésicale à l'inspection sanitaire était responsable de l'augmentation des cas identifiés pendant les derniers six mois de la période d'observation.*

The identification of a significant number of cows showing hematuria and photosensitizations, as well as urinary bladder, third eyelid and skin tumours was confirmed at meat inspection and clinical practice. The results presented come from a retrospective analysis based on the records of the Ponta Delgada abattoir. They concern the causes responsible for total carcass rejection and are referred to the 15 840 dairy cows (over 2 years old) slaughtered between January 1994 and Mars 1997. Tumours were the cause of 41,1% of total carcass rejections and the proportion of slaughtered adult animals exhibiting tumoral lesions amounted to 3.8%. The most frequent tumour localisation was the urinary bladder (50.9%), followed by the third eyelid and skin (respectively 20% and 15,7%). The major histopathological types of neoplasias observed were transitional cell carcinomas and hemangiomas in the bladder and squamous cell carcinomas of the third eyelid and skin. Differences in tumour incidence could be recognised and accordingly distributed by four distinct periods as presented in Table I. During 1994, bladder tumours were only searched for in cows presenting hematuria in the routine *ante mortem* meat inspection. The apparent incidence increase in 1995, was coincident with the publication of an official decree determining the compulsory slaughter of animals with macroscopic neoplasias. The reduction observed during 1996 (January to September) occurred when no monetary compensations for the slaughter of animals exhibiting neoplasias, were paid. The increase observed in last six months of the study might be attributed to the introduction of systematic examination of all urinary bladder mucosa of cows at *post mortem* meat inspection, from October 96, as compensation is no longer re-introduced.

**Table I**  
**Incidence of neoplasias and urinary bladder tumours in S. Miguel's slaughtered dairy cow population**

Period	Neoplasias (%)	Urinary bladder tumors (%)	No. animals
1994	1	0.2	3208
1995	6.8	3.7	4074
Jan - Sept 96	3.1	1.7	4698
Oct96 - Mar97	3.8	2.7	3860

An epidemiological characterisation of urinary bladder tumour occurrence is in course to assess risk factors related to human and animal populations. The available scientific literature and the direct observation of a widespread infestation of bracken fern (*Pteridium spp*) on the Sao Miguel pastures, suggests a possible association between this tumour's incidence and the ingestion of a ptaquiloside (PT), the major natural carcinogenic compound of this plant. The main routes of excretion of PT are urine and milk, with possible implications on Public Health.

### BIBLIOGRAPHY

- Pamakcu AM., Erturk E., Yalciner S., Milii M., Bryan T., 1978. Carcinogenic and mutagenic activities of milk from cows fed bracken fern (*Pteridium aquilinum*). *Cancer Reserch* 38, 1556-1560.
- Pinto C., Medeiros F., Alves A., Pires M., Rodrigues P., Vala H., Seixas F., Durão F., Peleteiro C., Peña L., Sanchez B., 1996. Cattle neoplasias on São Miguel Island - Azores. *Proceedings of the XIX World Buiatrics Congress. BCVA Edinburg 3<sup>o</sup> Vol, 91-92.*
- Smith BL., Seawright AA., 1995. Bracken fern (*Pteridium spp.*) carcinogenicity and human health - a brief review. *Natural Toxins* 3, 1-5.
- Wilmans O., Rasbach H., 1973. Observations on the Pteridophytes of Sao Miguel, Azores. *Br. Fern. Gaz.* 10, 315-29.

<sup>1</sup> Serviço de Desenvolvimento Agrário de Sao Miguel, Quinta S.Gonçalo, 9500 Ponta Delgada, Açores, Portugal

<sup>2</sup> Faculdade de Medicina Veterinária, R.Gomes Freire, 1199 Lisboa Codex, Portugal