

SIGNET-RING CARCINOMA IN AN ILE-DE-FRANCE EWE

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Introduction

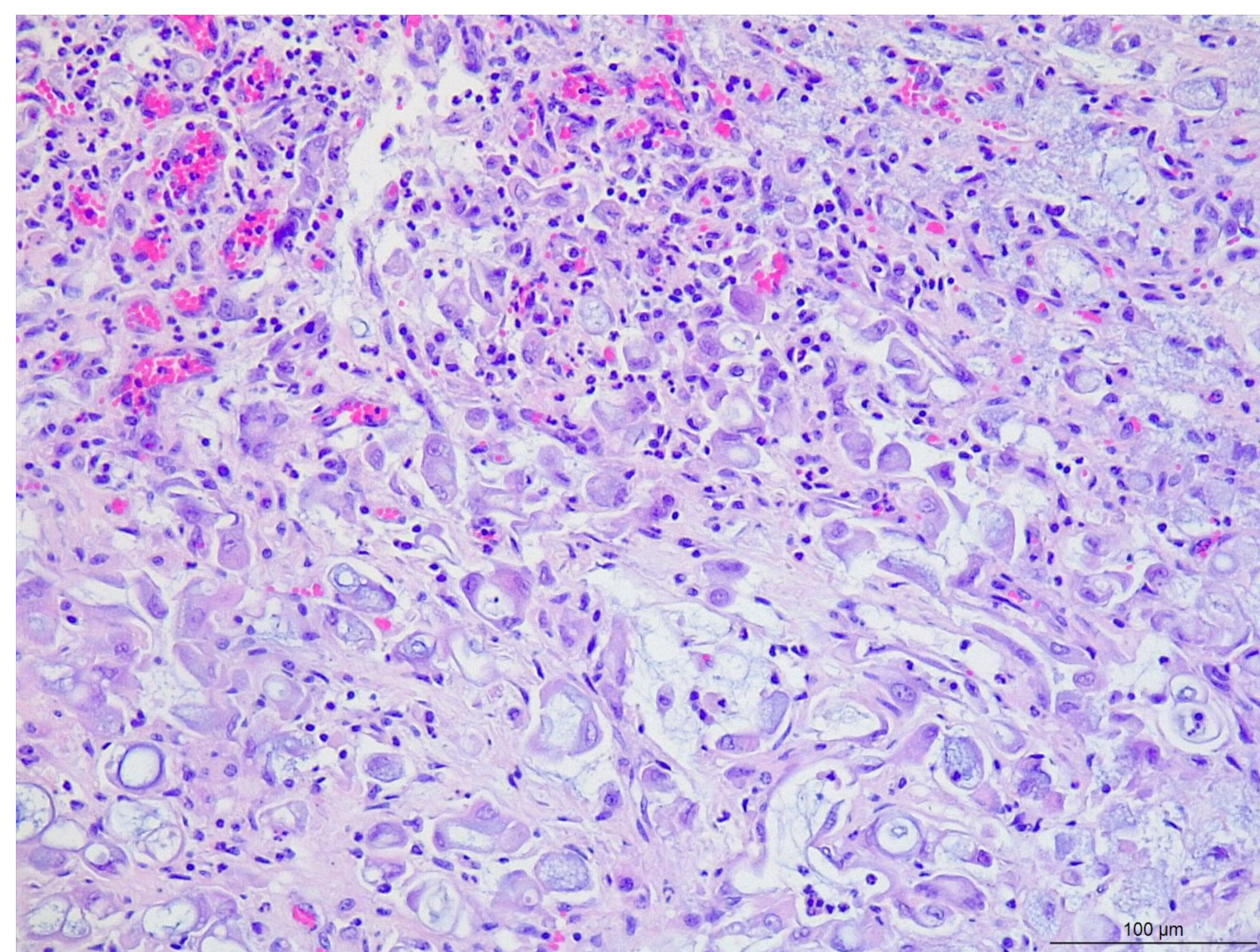
Signet-ring carcinoma represent a subclass of intestinal adenocarcinomas in domestic animals. This histological subtype is only sporadically reported in the small intestine of sheep and goats.

MATERIALS & METHODS

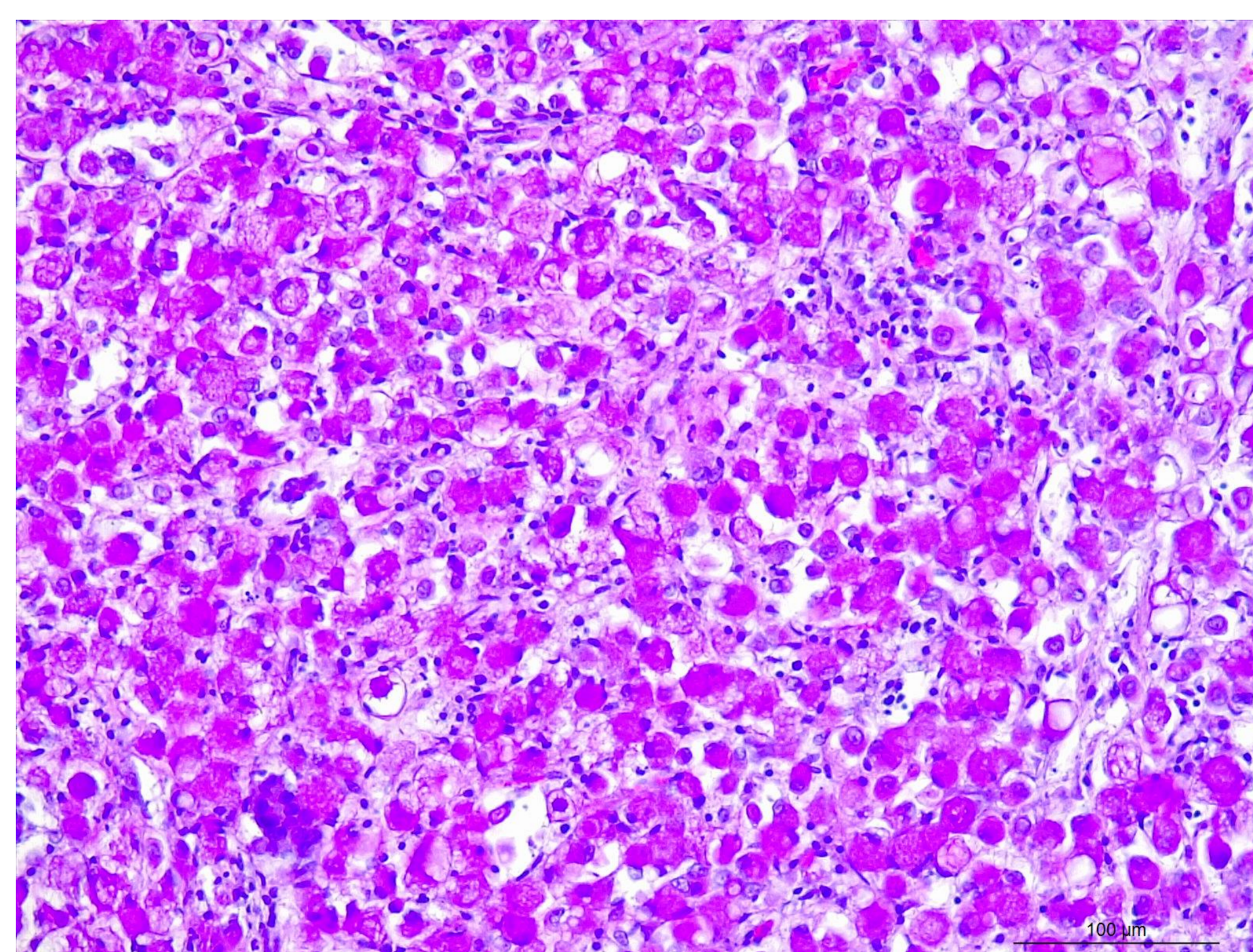
Full necropsy was performed on a 4-year-old Ile-de-France ewe. The owner had noted progressive weight loss over a period of several months. Samples were collected and processed for histology. Sections were routinely stained with HE and periodic acid-Schiff (PAS).

RESULTS

During necropsy, multiple thickenings alongside the serosa of the small intestine, also affecting the intestinal wall itself, and within the mesentery were observed. The lesions ranged from numerous small pinpoint, whitish and firm serosal nodules to diffuse circumferential thickening of the intestinal wall with partial luminal occlusion. Histology confirmed an infiltrative neoplastic process. The neoplastic cells, forming haphazardly arranged tubules and islands, were surrounded by a pronounced scirrhous reaction in some areas. A large number of the neoplastic epithelial cells were filled with cytoplasmic PAS positive material (mucin). The neoplastic cells occasionally surrounded lakes of mucus. Disseminated within the neoplasm were rounded and enlarged neoplastic cells with vacuolated amphophilic cytoplasm compressing the nucleus (signet ring cells). Lymphatic or vascular invasion was not observed.



Detail of the small intestine with neoplastic cells exhibiting signet ring morphology (HE stain, 200x magnification).



Detail of the PAS stain showing that large numbers of neoplastic cells contain mucin in their cytoplasm, confirmed as PAS positive material (200x magnification).

Conclusion

The diagnosis of a primary signet-ring carcinoma within the small intestinal tract was made. In sheep, they tend to be highly infiltrative and may show regional nodal involvement. Animals are also at risk for developing peritoneal carcinomatosis. There is ongoing debate on potential developmental predisposing factors in sheep, but due to chronic wasting, there is an economic importance.