# CROSS-CANADA DISEASE REPORT

# RAPPORT DES MALADIES DIAGNOSTIQUÉES AU CANADA

## Quebec

### Isolation of *Streptococcus suis* from cattle

Two isolations of *Streptococcus suis* from cattle are reported. *Streptococcus suis* capsular type 16 and *Pasteurella multocida* were isolated from the lungs of a six-week-old Holstein calf. The animal was affected with a torsion of the large intestine and did not survive to surgery. Necropsy revealed that the colon was heavily congested and friable, and pneumonia was evident. Histopathology revealed acute hemorrhagic necrosis of the colon, and chronic purulent bronchopneumonia, with the presence of bacterial clumps free in alveolar and bronchiolar lumens. The role of *S. suis* could not be ascertained in this case. *Streptococcus suis* capsular type 16 has previously been isolated from diseased pigs (mainly from pneumonia), as well as from clinically healthy pigs (unpublished observations).

More recently, *S. suis* capsular type 2 was isolated in pure culture from the lungs, kidneys and placenta of a 4 1/2-month-old aborted bovine fetus. Histopathology revealed the presence of gram-positive cocci sometimes arranged in short chains and affecting mainly fetal membranes. However, severe autolysis of tissues prevented the detection of any inflammatory reaction. Capsular type 2 as well as other capsular types have been associated previously with abortion in swine (1).

Few reports of isolation of *S. suis* from ruminants have been published. In 1988, Hommez *et al* (2) reported the isolation of *S. suis* from cattle (14 isolates), sheep (3 isolates) and goats (1 isolate) with suppurative lesions. Most isolates were untypable and isolates of only one capsular type 5 and one capsular type 2 were detected. Most isolates of *S. suis* originated from the respiratory system and others were from joints, cerebrum and abdominal aspirate. As in pigs (1), *S. suis* was often associated with *Pasteurella* spp. in lungs. In all these instances, there was no evidence of close contact between cattle and pigs.

**It is noteworthy that the reference strain of *S. suis* capsular type 20 was recovered from a diseased calf in the United States, and recently two strains, one from a bison and one from a lamb with endocarditis, were identified as *S. suis* capsular type 9 (3).** These findings indicate that *S. suis* may be pathogenic for different species of animals.

References


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## Ontario

### Osseous metaplasia of the renal pelvis in slaughter swine

In 1988 and 1989, nodular renal masses from two six-month-old pigs, were submitted by inspectors from slaughterhouses in New Brunswick and Ontario. In each pig, most of the renal pelvis of one kidney was replaced by a hard, granular, irregularly-shaped nodule about 6 cm in diameter. No other gross lesion was reported on post mortem examination. A mycobacterial infection was suspected. Histopathologically, both samples were similar and were characterized by multiple bony spicules surrounded by occasional osteoclast-like cells, fibrosis and infiltrates of mononuclear cells. Some tubules, Bowman's capsules and glomerular tufts were sclerotic at the periphery of the metaplastic bone. Ziehl-Neelsen's stains were negative for acid-fast bacteria.

Metaplastic bone develops directly from non-osseous connective tissue by redifferentiation of mesenchymal cells; it may or may not be ectopic (1). **Ectopic mineralization with osseous metaplasia occurs occasionally in hypervitaminosis D, hypocalcemia, hypercalcemia, uremia, chronic inflammation such as tuberculosis, mycotic lymphadenitis, neoplasia, transplantation of tissue and following surgery** (1,2). As far as I could determine, osseous metaplasia of the renal pelvis in swine has not been reported.

Ectopic bone probably develops from inducible osteogenic precursor cells, but the identities of the inducing substance(s) are not known (1). The condition may be a result of prolonged, low-grade irritation.

References


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