Case 11N376

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History & Presentation

• 9 year old Holstein cow
• Decreased appetite
• Weight loss
• Draining lesion in the left front quarter
• Multiple swellings in and around the udder
Physical Exam
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• Ulcerative lesion, left front quarter.
• Multiple firm areas throughout the udder.
• Enlargement of the supramammary lymph nodes and left subiliac lymph node.
• Large area of pitting edema on the ventral midline.
• Subcutaneous abdominal veins were distended and firm.
Mammary Gland
Supramammary lymph node
Thoracic lymph nodes

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Gross Necropsy

- 25 cm diameter firm, pale tan mass in the left front quarter
- Similar, 1 mm to 5 cm, masses scattered throughout adjacent connective tissue, supramammary lymph nodes, lungs, and adrenal glands.
- Vessels associated with the udder were frequently thrombosed.
- The supramammary lymph nodes were markedly enlarged (26x21x14 cm)
- The aorta was entrapped by lymph nodes enlarged 20-30x normal size.
Pulmonary Metastasis (10x obj)
Supramammary Lymph Node (10x obj)
Histopathology

• Mammary gland, lung, and adrenal gland
  – Spindle cells arranged in disorganized streams and bundles
  – The nuclei were oval to elongate with 1-2 nucleoli and coarsely stippled chromatin.
  – Marked anisokaryosis and anisocytosis.
  – Multinucleated cells were commonly seen.
  – The mitotic rate was highly variable and ranged from 1-5 per high-powered field, with common bizarre mitotic figures.

• Enlarged lymph nodes
  – Variable effacement by sheets of monomorphic neoplastic lymphocytes.
Smooth Muscle Actin (60x obj)
Immunohistochemistry

- Diffuse expression of vimentin
- Intermittent expression of smooth muscle actin
Discussion

• Based on morphologic features and expression of both vimentin and smooth muscle actin, leiomyosarcoma was considered the most likely diagnosis.

• Other differentials included:
  – Fibrosarcoma
  – Myoepithelial sarcoma
  – Undifferentiated sarcoma
Discussion

• The reported incidence of all mammary tumors in cows was 1/270,000\textsuperscript{1}.
• Leiomyosarcoma accounted for .1 to 2.2 percent of bovine tumors in post mortem studies\textsuperscript{2}
• Leiomyosarcoma in the cow has been reported in the kidney, intestines, lung, bladder, gall bladder, and male and female genital tract\textsuperscript{3}
• To our knowledge, there have been no prior reports of leiomyosarcoma in the bovine mammary gland
References

