Case 14-330: Dog

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Signalment & Clinical History

• 7 year old, female spayed Standard Poodle
•Presented for lethargy
•Work-up:
  • Mild anemia (PCV 30%)
  • Elevated ALP (369 IU/L)
  • Hemoabdomen (fluid PCV 38%)
  • Clotting times within normal limits
Case Progress

• Abdominal ultrasound: Large hyperechoic, cystic liver mass
• Patient stabilized and hemoabdomen resolved
• 1 week later, exploratory laparotomy
  – Solitary mass in left medial liver lobe
  – No other masses or abnormalities noted
Hepatocellular    Cholangiocellular

Hall’s bile    Alcian blue

HepPar1    Cytokeratin 19

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Diagnosis:

Combined hepatocellular-cholangioadenoma
# Combined hepatocellular-cholangioadenoma

<table>
<thead>
<tr>
<th></th>
<th>Hepatocellular compartment</th>
<th>Cholangiocellular compartment</th>
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<tbody>
<tr>
<td>HepPar1</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Cytokeratin 19</td>
<td>-</td>
<td>+</td>
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<tr>
<td>panCytokeratin</td>
<td>-</td>
<td>+</td>
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<tr>
<td>α-Fetoprotein</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Vimentin</td>
<td>-</td>
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<tr>
<td>Produces</td>
<td>bile</td>
<td>mucin</td>
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</tbody>
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Combined hepatocellular-cholangiocellular neoplasms

- Carcinomas reported in humans, dogs, horse
- Adenomas reported in pig, sheep
- Pathogenesis poorly understood
- In human studies of combined neoplasms (HCC-CC):
  - Common gene deletions in HC and CC compartments
    • Suggests a common cell of origin
  - β-catenin mutations not found in HC or CC compartments
    • Suggests separate entity from hepatocellular carcinoma
  - p53 mutations in ~25% of HCC-CC
Case conclusion

• Dog had uneventful recovery from surgery
• Neoplasm excised with narrow margins
• Two months following liver lobe resection the dog is reportedly healthy
Questions?

Acknowledgments
Laura A. White  Stephanie A. Montgomery  Jeremy R. Tobias
Keith E. Linder  John M. Cullen
Pamela Lucas
Sandra Horton & NCSU Histology Laboratory

References
• Segawa R. et al. J VET Diagn Invest published online 12 March 2014

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