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Multifocal atherosclerosis with dissecting aneurysm in a snake

Hirotaka Kondo, DVM, Ph.D
Jeffrey Abbott, DVM, Ph.D, Dipl. ACVP

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Case history

- Copperhead snake (*Agkistrodon contortrix*)
- 13 year-old, female
- Left lateral facial swelling
- Mineralized aorta and multiple nodules associated with the aorta throughout its length
- Euthanized

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Aorta

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Morphologic diagnoses

• Atherosclerosis, multifocal, chronic, moderate, aorta, with mineralization, osseous metaplasia, elastic fiber disruption and subintimal fibrosis, resulting in:
  ▪ Dissecting aneurysm, multifocal, chronic, severe, aorta, with thrombosis

• Similar lesions in the head with severe hemorrhage
Other histologic lesions

- Myocardial degeneration and necrosis with fibrosis
- Hepatic lipidosis
- Renal gout
- Pancreatic nodular hyperplasia
Atherosclerosis (ATH)

- A condition characterized by thickening of the arterial intima and media as a result of the accumulation of fatty materials
- Lesions have three distinct components:
  1) Nodular accumulation of macrophages (atheroma)
  2) Accumulation of cholesterol crystals
  3) Mineralization of advanced lesions
Aneurysms

• ATH is a common pathogenic factor for aneurysms
• Degeneration of the tunica media and fragmentation of the elastic fibers results in:
  ➢ Dissection in the tunica media
  ➢ Formation of a new lumen parallel to the original vessel (dissecting aneurysm)
ATH in animals

• ATH in reptiles appears to be rare
• One report in a bearded dragon
  ➢ Lesion was located in the base of aorta
  ➢ No evidence of metabolic and endocrine diseases
• Pathogenesis is poorly understood
• No reports of dissecting aneurysm in reptiles
• No multifocal aneurysms in any animal species
Conclusion

• No clinical history of metabolic diseases
• Evidence of hepatic lipidosis
• Metabolic conditions such as hyperlipidemia may be associated with ATH
• First case of ATH with secondary multifocal dissecting aneurysms in a snake
Acknowledgement

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Questions?

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References


