FIBROPAPILLOMATOSIS (FP) OF SEA TURTLES

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<th>ANIMAL GROUP AFFECTED</th>
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<td>Sea turtles</td>
<td>unknown, marine leeches (<em>Ozobranchus</em> spp.) have been implicated as mechanical vectors</td>
<td>Papillary masses on the body surface Tumors can also occur in internal organs</td>
<td>Tumors can fatally debilitate the animals</td>
<td>Surgical removal of tumors</td>
<td><em>In houses</em> Isolate affected turtles. Tanks should have separate water sources. <em>In zoos</em> Isolate affected turtles. Tanks should have separate water sources.</td>
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Susceptible animal groups
Many species of marine turtles including green (*Chelonia mydas*), loggerhead (*Caretta caretta*), Hawksbill (*Eretmochelys imbricata*), and olive ridley (*Lepidochelys olivacea*) sea turtles

Causative organism
Alphaherpesvirus.

Zoonotic potential
No.

Distribution
World-wide.

Transmission
Unclear. In the marine environment, FP could potentially be transmitted to uninfected individuals by direct contact between infected turtles or by contact with substrates harbouring virus, such as sediments, contaminated surfaces or seawater. Marine leeches (*Ozobranchus* spp.) have been found to carry high viral DNA loads, implicating them as mechanical vectors.

Incubation period
15 to 43 weeks following experimental infection by intradermal injection or scarification.

Clinical symptoms
Fibropapillomas. Individual or multiple tumors can occur externally all over the body. Internal tumors are also possible.

Post mortem findings
Internal tumors are most commonly found in the lungs but can also occur in other tissues including the liver, gallbladder, intestinal tract and kidneys.

Diagnosis
Gross pathological and histological examination of the tumors, Polymerase chain reaction (PCR). Internal tumors can be detected by radiography, MRI and endoscopy. An ELISA for the detection of antibodies against chelonid fibropapillomatosis-associated herpesvirus (CFPHV) was recently described.

Material required for laboratory analysis
Tumor material

Relevant diagnostic laboratories
Contact pathologists with experience with reptiles. For virus detection: contact laboratories with experience with reptile viruses and/or detection of various herpesviruses:
- Dr. Rachel E. Marschang, Institut für Umwelt- und Tierhygiene (460), Hohenheim University, Stuttgart, Germany
Treatment
Surgical removal of tumors.

Prevention and control in zoos
- Strict hygiene and quarantine procedures. Newly acquired animals should be kept isolated for a minimum of 3 months and should undergo thorough physical examinations both before and after quarantine.
- Preventive measures to reduce stress may help reduce mortality. Reduction in the number of animals per tank, strict hygiene procedures, high water quality, and optimal water temperature will reduce the number of animals affected.

Herpesviruses can cause latent infections, so that any infected animals should be considered life-long carriers.

Suggested disinfectant for housing facilities

Notification

Guarantees required under EU Legislation

Guarantees required by EAZA Zoos

Measures required under the Animal Disease Surveillance Plan

Measures required for introducing animals from non-approved sources

Measures to be taken in case of disease outbreak or positive laboratory findings

Conditions for restoring disease-free status after an outbreak

References