

Investigation of the causes of mortality and morbidity in cetaceans stranded along the Catalan coast (June 2020 – May 2021)

UAB

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OBJECTIVES

The aim of this study is to identify the causes of mortality and morbidity in cetaceans stranded along the Catalan coast between June 2020 and May 2021.

MATERIALS & METHODS



Necropsies and detailed pathological investigations were performed:

- Histopathologic, microbiological, serological, and biomolecular studies.
- Imaging tests (Computed Tomography) in fresh individuals.
- Rutinary tests against Cetacean Morbillivirus (CeMV) and *Brucella* spp.

RESULTS

A total of 23 cetaceans from 5 different species were necropsied: *Stenella coeruleoalba* (n=19), *Tursiops truncatus* (n=1), *Delphinus delphis* (n=1), *Globicephala melas* (n=1), and *Grampus griseus* (n=1).



Figure 1. Presence of gas bubbles in the mesenteric veins (N-124/21)

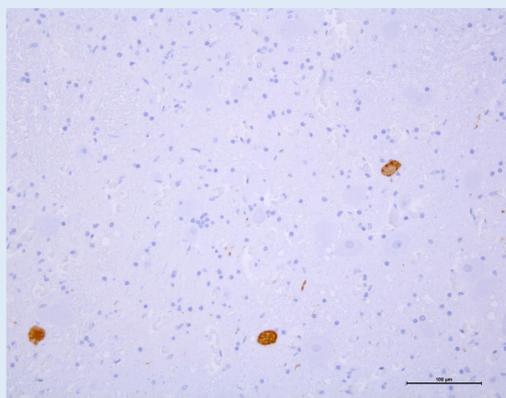


Figure 2. Positive IHC against CeMV in the brain, compatible with a chronic case (N-023/21)

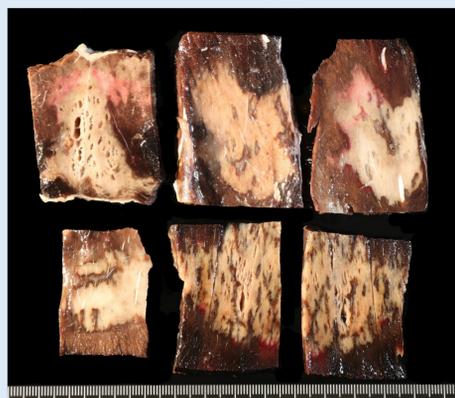


Figure 3. Degenerative muscle lesions (N-128/21)



Figure 4. Focal and degenerative lesion on the right part of the brain, compatible with encephalomalacia (N-211/21)



Figure 5. Tension pneumothorax due to bacterial pneumonia affecting the right lung (N-028/21)

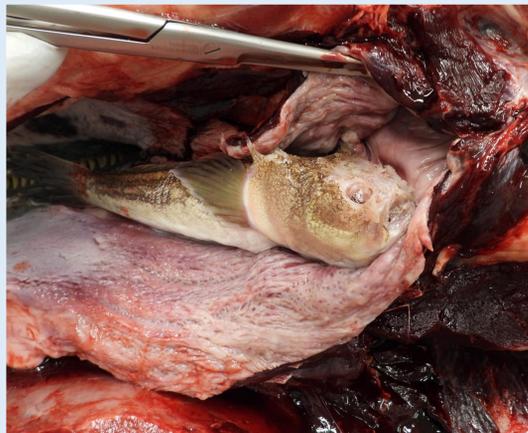


Figure 6. Rat fish (*Uranoscopus scaber*) obstructing the esophagus of the *Stenella coeruleoalba* (N-218/21)

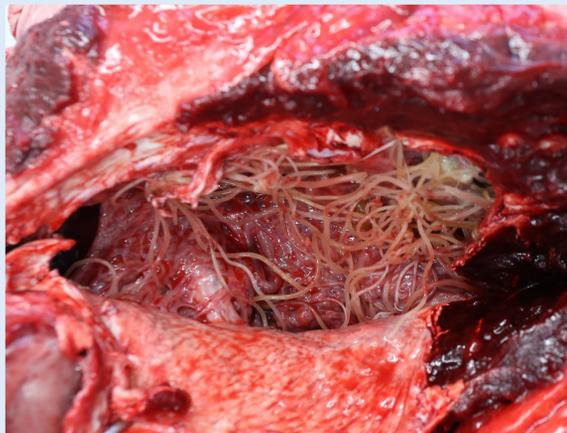


Figure 7. Presence of *Crassicauda grampicola* and *Stenurus globicephalae* (nematodes) on the pterygoid sinus (N-034/21)



Figure 8. Presence of foreign material (algae compatible) on the keratinized stomach (N-126/21)

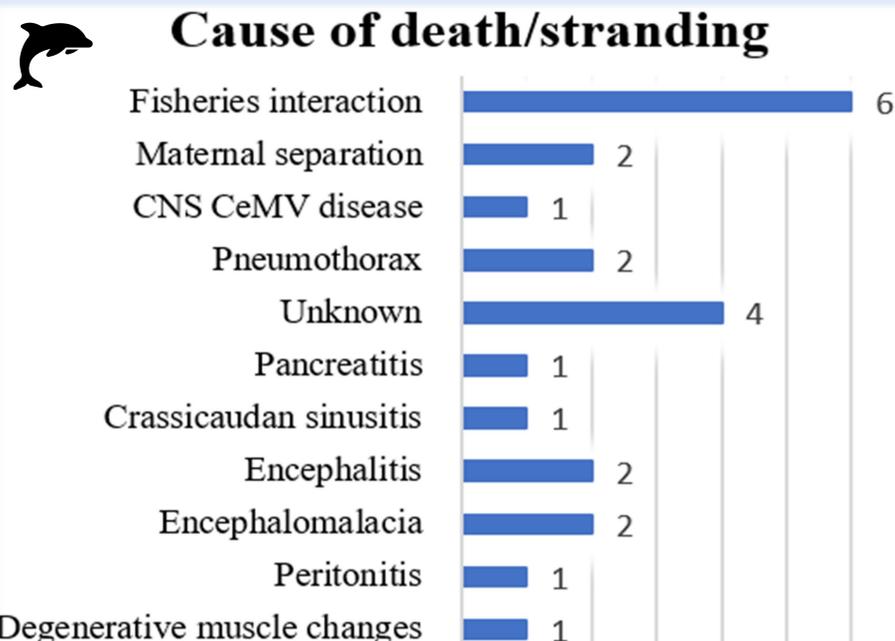


Figure 9. Causes of mortality of 23 cetaceans stranded along the Catalan coast (June 2020 – May 2021)

DISCUSSION & CONCLUSIONS

- By-catch is still the major threat to stranded cetaceans along the Catalan coast.
- There is no major evidence of CeMV outbreak.
- The presence of foreign material in the digestive tract was frequent in both animals with lesions in the CNS and those who suffered a maternal separation.
- External and internal parasites were commonly found and only had significant pathogenic effects in a few cases (e.g. *C. grampicola* in a Risso's dolphin).

Passive surveillance provides valuable information about the health status of cetaceans. However, establishing a diagnosis of death/stranding is not always possible. The diagnostic capacity is limited, and many factors influence the pathogenesis of disease and the interpretation of the results.

References:

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