

## AN ULTRA SOUND ON SEA COWS (*Dugong dugon*) THORACIC AND ABDOMINAL CAVITY-AN EFFORT TO ENRICH A PHYSIOLOGICAL DATA BY ESTABLISHING A NON-INVASIVE TECHNIQUE FOR DIAGNOSTIC NEEDS

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### Introduction

As one of the world's wildlife heritage, efforts must be made to support Dugongs conservations. About 175 international publications on Dugongs was made. Special topics on veterinary medicine's side weren't much explored yet. Special studies to collect their physiological values became important to uphold a diagnostic method in investigating Dugongs during conservation. Regarding their extinction and acute stress, a non-invasive technique can be prioritised to collect certain physiological values. An ultra sound studies on body cavities can be an alternative way to observed Dugongs internal condition without requiring an invasive method.

The objectives of the studies were to collect a normal view of the internal organ imaging, so we can diagnose a disorders encountered if there is an ultrasound image alteration.

### Materials and Methods

The studies were conducted in Dugongs aquanum at Sea World Indonesia, Jakarta. The ultrasound was conducted monthly starting from June until December 2006 The Animal studies was conducted on a 8 months-Female Dugong, named Diana and owned by Sea World Indonesia, Jakarta. Ultrasound studies were performed by optimizing a 2D ultrasound device (ALOKA SSD500, 3.5 MHz Probe), images were collected and classified based on the organs kind and recording time.

### Results and Discussion

Based on the ultrasound studies, the heart was physiologically and anatomically on a good condition, as well as the urine bladder and the stomach. The liver and the large intestine were showing abnormalities. There were a hyperechoic on the liver matrix and fluid inside bile's lumen accompanied with a thickening of its wall. The fluids are highly contained in the large intestine lumen, which

may indicate an abnormal water/ fluids absorption. There were also slight-hyperechoic images of the large intestine wall which resembled a thickening of it wall. An abundant fluid accompanied with a thick- wall in a large intestine, can be interpret as a mal absorption of the water which lead to a large-intestine diarrhoea. Above findings were correlate with Diana condition at that moment (November – December 2006), where suffered an irregular and frequent large- intestine diarrhoea. Nutrition, micro organism or their's own failure can be the causative agents.

### Conclusions

Some conclusions can be made since the developed ultrasound technique in Dugong was reliable for diagnosing internal disorders. Considering that Dugongs are an endangered species, the USG can be regarded as an effective diagnostic means due to its non-invasive technique.

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## INTRODUCTION OF THE GREAT APE INFORMATION NETWORK (GAIN) IN JAPAN

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The "Feasibility study concerning research use of great apes including chimpanzees in the world (a budget from National Bio-Resource Project by the Ministry of Education, Culture, Sports, Science and Technology in Japan)" was followed by a new system of the "Great Ape Information Network (GAIN)" that succeeded the idea with the research resource distribution network of great ape origin. The expansion of network was conducted between breeding facilities in the zoo or institution and researchers using great ape resources, which were derived from mainly carcasses of the great apes. The nation wide consensus was built on experimentally using of chimpanzees without invasiveness and euthanasia, but with a psychological well-being and sanctuary.

The opportunity of such an activity and the result of the investigation have been reported as in the symposium of "Mew in the future of the chimpanzee breeding in Japan" and

"Current status of the research intended for a captive chimpanzee and view in the future" in the Japanese Primate Society. In the same symposium, Dr T. Matsuzawa in the Kyoto University Primate Institute showed a family pedigree of the fifth generation in the breeding chimpanzees in Japan. He pointed out two issues, i.e. it was needed to avoid marriage between close relatives and theoretically it is possible to do genome analysis of individuals with a familial tree.

In the future, in order to support researches of great ape, the GAIN must collaborate more closely with the zoo, and it may contribute the development of great ape research in Japan. In this context, members of the GAIN consider that information is also an important resource, and establishment of the common usage system of information between zoo and researcher may be necessary.