Ductus arteriosus and foramen ovale in the bottlenose dolphin (*Tursiops truncatus*)

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**Introduction:**
- ductus arteriosus is a blood vessel connecting the pulmonary artery to the aortic arch
- foramen ovale is fetal cardiac shunt between left and right atrium
- objective: to determine the timing of postnatal closure of ductus arteriosus and foramen ovale in bottlenose dolphins and to assume the possible causes

**Materials and Methods:**
- 49 hearts of bottlenose dolphins were studied by gross dissection
- the hearts originated from bottlenose dolphins found death from October 1991 till April 2011 in the Croatian part of the Adriatic Sea
- data on body length, body mass and age were listed from necropsy protocols

**Results and discussion:**
Open ductus arteriosus (Fig. 2) was observed in 9 animals:
- the youngest was an immature fetus with a body length of 99 cm;
- the largest male was 160 cm in length, the largest female was 220 cm in length, 5 years old

Open foramen ovale (Fig. 3) was observed in 19 animals:
- the largest male and female were both 210 cm in length, 4 years old

**Conclusions:**
- ductus arteriosus and foramen ovale are open at birth
- the closure of fetal structures of the heart correlates with total body length and age of bottlenose dolphins and appears earlier in males than in females
- fetal structures of the heart retain longer in bottlenose dolphins than in humans
- we presume that the persistence of fetal structures in the bottlenose dolphin heart is the result of a lower evolutionary pressure on marine versus land mammals