



# AN OCCURRENCE OF UNDIVIDED CRANIAL LOBE IN THE RIGHT LUNG IN WEST AFRICAN DWARF GOAT: A CASE REPORT

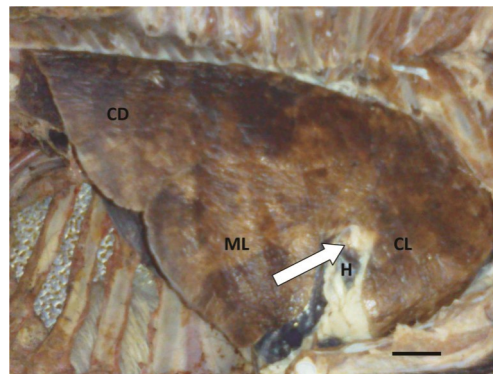
Received:10.06.2013

Accepted:20.07.2013

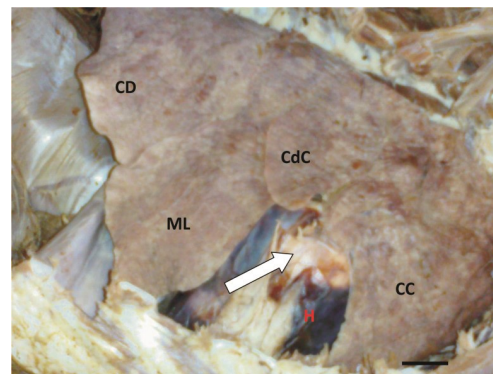
Congenital anomalies of the respiratory system are rare (McGeady *et al.*, 2006), unlike the defects encountered with the heart (Haligur *et al.*, 2011; Laus *et al.*, 2011). But lung agenesis has been reported (Sadler, 2006), as also the duplication of trachea in sheep neonate, (Esfandiari and Dehghan, 2010). Hence the authors felt the need to report this case of congenital malformation of the right cranial lobe of the lung in West African Dwarf Goat (WADG) observed in a cadaver during demonstration at the gross anatomy practical to student.

One of the eight WADGs cadavers used for topographic anatomy dissection presented a malformed right cranial lobe. The fissure separating the cranial and caudal parts of the cranial lobe was absent (Fig.1). The cranial lobe was undivided. The cardiac notch was smaller than that in all the other seven specimens studied (Fig. 1, 2). The tracheal bronchus was deeply embedded into the cranial portion but a branch was seen permeating the caudal part of this cranial lobe. The animals were apparently healthy before purchase from the farmer and during antemortem inspection. They were subsequently euthanized and embalmed for dissection.

The occurrence of congenital malformations of the lung is rare and also unreported in the domestic animals especially small ruminants. This may be attributed also to poor post mortem examination practices. The congenital anomaly in this report is basically an anomaly of size, shape and segmentation. Such anomaly if extensive can reduce the size of the lung volume. However in this case, the anomaly was a non-functional one as the lung appears to have been carrying out its physiologic function



**Fig.1.** Malformed lung showing the cranial (CL), middle (ML) and caudal lobes (CD). Note the heart (H) in the reduced cardiac notch (white arrow). Also observe the absence of dividing fissure in the cranial lobe. (Scale bar = 5cm).



**Fig.2.** Normal lung showing the cranial part (CL) and caudal part (CdC) of cranial lobe, middle (ML) and caudal lobes (CD). Note the heart (H) in the large cardiac notch (white arrow). Also observe the presence of fissure dividing the cranial lobe into two lobes. (Scale bar = 5cm).

normally as evidenced by the presence of tracheal bronchus and its branches, absence of history of respiratory distress and apparently healthy status of the animal with good body

conformation during antemortem inspection prior to euthanasia and embalming.

### Summary

The cadaver of an apparently healthy West African Dwarf Goat - *Capra hircus*, used in students' topographic anatomy dissection class contained malformed lung. The right cranial lobe which was not subdivided into cranial and caudal parts received the tracheal bronchus and its bifurcations. This fused cranial lobe segments in association with the right middle lobe formed a narrow cardiac notch. The right middle, caudal and accessory lobes did not present any abnormalities. The left cranial and caudal lobes were normal in shape and position. The apparently healthy status of the cadaver prior to euthanasia may be explained by presence of tracheal bronchus which served as a normal air passage way thereby sustaining normal respiration in this right cranial lobe.

### References

- Esfandiari, A. and Dehghan, A. 2010. Several congenital abnormalities in a neonate of a mixed Mehraban sheep. *Turk. J. Vet. Anim. Sci.* **34**: 553-556.
- Haligur, A., Haligur, M. and Ozmen, O. 2011. Congenital secundum atrial septal defect and membranous ventricular septal defect in a newborn Holstein-Friesian calf. *Turk. J. Vet. Anim. Sci.* **35**: 365-368.
- Laus, F., Copponi, I., Cerquetella, M. and Fruganti, A. 2011. Congenital cardiac defect in a pygmy goat (*Capra hircus*). *Turk. J. Vet. Anim. Sci.* **35**: 471-475.
- McGeady, T.A., Quinn, P.J., FitzPatrick, E.S. and Ryan, M.T. 2006. *Veterinary Embryology*, Blackwell Publishing, Oxford. p 231.
- Sadler, T.W. 2006. *Langman's Medical Embryology*, 10<sup>th</sup> ed. Lippincott Williams and Wilkins, Philadelphia .p 200.

**Ikpegbu E\*, Nlebedum, U. C and Nnadozie, O.**

Department Of Veterinary Anatomy,  
Michael Okpara University of Agriculture Umudike,  
Abia State, Nigeria.



\*Corresponding author's email : [fikpegbu@yahoo.com](mailto:fikpegbu@yahoo.com)