DHR International Journal Of Medical Sciences (DHR-IJMS)
ISSN: 2278-831X, Vol. 5(3), 2014
Available online *http://www.doublehelixresearch.com/DHRIJMS*

Original article

Polymelia in a crossbred Jersey cow (*Bos Taurus*): A case report

P.M. Barua*, D. Kalita, D.K. Sarma, M. Kalita, P. Das and D. Lahkar

Department of Animal Reproduction, Gynaecology and Obstetrics, College of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati- 781 022, Assam
*Corresponding Author: P.M.Barua

A Polymelia or supernumerary limb in any area of the body surface of an individual is a rare congental occurrencce. According to location polymelia is named as notomelia, cephalomelia, thoracomelia and dipygus or pygomelia where the extra limbs are attached in the region of embryonic notochord, on head, on thorax to the margin of scapula of normal limb and to the pelvis respectively (Denholm, 2011). Reports on incidence of different types of polymelia in different domestic and wild animals, aquatics, amphibians, domesticated and wild avians and even in reptile are available (*psycheskinner.hubpages.com* › Pets and Animals*). This case of thoracomelia or a type of p*olymelia in a crossbred jersey cow (*Bos Taurus*) is presented here as rare occurrence in North-East region of India.

Fig 1: Thoracomelia in a crossbred jersey cow

History and clinical findings:

A 5-years-old Jersey crossbred cow (*Bos Taurus*) of approximately 130 kg body weight, was presented by a private farmer for removal of the two extra limbs from the body. The history revealed that the cow gave birth two normal healthy female calves. The milk yield during both the lactation was optimum on

an average 4.5-5.0 litre. / day. On clinical examination, two extra forelimbs were found on the posterior margin of right scapular region. The supernumerary forelimbs had distinct knee, fetlock and pastern joints. Palpation revealed that both the forelimbs had radius, carpal bones, metacarpas and phalanges. The ulna could not be detected on palpation. However, scapula and humerus were absent. Externally, although both the supernumerary limbs originated from same place bones of both the supernumerary limbs were not fixed together. The cleft hooves were typically elongated and curved. The extra limbs were significantly smaller than the normal counterparts (Fig.1.) measuring 46 and 54 cm in length. Both the supernumerary limbs were functionless but in normal sensation and hair growth. The cow showed no discomfort during walking, running, lying down and getting up. The health of the animal was found good. The case was diagnosed as thoracomelia, a kind of polymelia and the owner was advised for surgical correction or to keep the cow with the extra limbs.

Treatment and Discussion:

The owner opted to keep the cow with the extra limb and considering his interest the supernumerary limbs were not amputed. As the thoracomelia did not affect reproduction and milk production the owner's decision was considered appropriate. The expenditure for surgery and postoperative treatment were also saved. Polymelia with two extra forelimbs at the right scapular region in male Korean native calf was reported by Kim *et al*. (2001). Incidence of fifth leg polymelia in a crossbred calf was reported by Mistry *et al.* (2010). Jana and Ghose (2008) recorded six legged polymelia in bovine. On the other hand, Rahman *et al.* (2006) could successfully amputate two supernumerary hind limbs attached between the healthy functional limbs in a calf. The incidence of polymelia might be due to partial degeneration of one of the conjoined twins leaving developed limb(s) attached to body of other normal twin either anterior or posterior region. Incidence of fragile chromosome might be attributed to this kind of phenotypic aberration (*psycheskinner.hubpages.com* › Pets and Animals*).* The constriction of extra limb might be due to underdeveloped status of humerus, radius and ulna which produce only duplication of fore limb.

Summary

A case of polymelia most specifically thoracomelia in an adult cow delivering normal calves twice with optimum milk yield was presented for extirpation of extra limbs. Knowing the advantages, disadvantages and expenditure for surgery, the owner opted not to get the cow operated.

References

1. Denholm, L. 2011. Polymelia(supernumerary limbs) in Angus Calves. Flock and Herd case notes.www.flockandherd.net.au/**cattle**/reader/**polymelia**.htm [Access on November 25, 2014].
2. Jana, D. and Ghose, M. 2008. Sixed legged pygomelia in congenital anomalia a cow. *Pashudhan* **34(10)**:1.
3. Kim, C.; Yeo, S.; Cho, G.; Lee, J.; Choi, M.; Won, C.; Kim, J. And Lee, S. 2001. Polymelia with two extra forelimbs at the right scapular region in male Korean native calf. *J. Vet. Med. Sci.* Oct. **63**(10): 1164-4.
4. Mistry, J.N.; Patel, P.B.; Suthar, D.N. and J.B. Patel 2010., Fifth legged pygomelia in a cross bred cow calf. *Veterinary World* . **3(11)**:512
5. Psycheskinner.hubpages.com › Pets and Animals. Polymelia: Animals Extra Legs. - Psycheskinner - HubPages[Access on November 25, 2014].
6. Rahman, M.M.; Khan, M.S.; Biswas, D.; Sutradhar, B.C. and Saifuddin, A.K. 2006. Pygomelia on supernumerary limbs in a crossbred calf. *J. Vet. Sci.* **7(3)**: 303-305.