## A CASE REPORT OF SUCCESSFUL SURGICAL MANAGEMENT OF CEREBRAL COENUROSIS IN AN ASSAM HILL GOAT

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## SUMMARY

The present communication reports a successful surgical management of cerebral coenurosis in an indigenous breed of goat from North bank of Brahmaputra river of Assam, India. The goat was presented with a history of anorexia for last few days and circling movement towards right side. Anamnesis and clinical findings like softness of skull behind the right horn confirmed it to be a case of cerebral coenurosis. Surgical removal of cyst under local analgesia followed by post operative therapy could bring the animal into normal physiological health.

Keywords: Coenurosis, Goat, Gid, Taenia multiceps

Cerebral Coenurosis is a space occupying parasitic disease of central nervous system caused by the larval stage of Taenia multiceps, known as Coenurus cerebralis (Batista et al., 2010; Misra and Behl, 2015; Evangelisti et al., 2016; Khosa et al., 2016). Gid is primarily a disease of central nervous system with higher incidence in sheep and goat but may also affect camels, deer, pigs, horses and rarely seen in cattle and humans (Rahman et al., 2017). It may also appear as non cerebral coenurosis, which is caused by Coenurus gaigeri (Bordoloi et al., 2015). The ideal and only successful curative method of cerebral coenurosis with significant clinical improvement is surgical removal of the cyst (Komnenou et al., 2000; Abera et al., 2016; Evangelisti et al., 2016; Rahman et al., 2017). In this regard, authors would like to place on record this scientific report of successful surgical management in a newly registered indigenous breed of goat (Assam Hill Goat) from the foot hills of Arunachal Pradesh.

A one and half years old Assam Hill goat was presented to Veterinary Clinical Complex with the history of gradually developing anorexia and circling movement towards right side for last 7 to 10 days. Anamnesis revealed no administration of anthelmintics since birth and rearing the animal in open range system sharing common grazing land with other animals where stray dogs have free movement.

Clinical examination revealed the presence of nystagmus, mild congestion of ocular mucous membrane, circling movement, normal body temperature (101.4 °F) with clear 2 cm diameter sized circular softness on the skull just behind the right horn. With these findings the

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case was suspected for cerebral coenurosis or gid which was confirmed by post surgical microscopic visualization of the scolex of the cyst as shown in Fig. 2.

The animal was subjected to immediate surgical intervention under 2% lignocaine hydrochloride local analgesia (Fig. 1. Inset left top) along with manual restraining. The concerned area was prepared for aseptic surgery and a "V" shaped incision was given to get a better exposure (Fig. 1. Inset left bottom). Soft skull tissue was removed with the help of fine scissors and forceps following a nick with BP blade. After soft manipulation, the cyst protrudes and was removed manually with mild traction (Fig. 1). The oozing blood was soaked out and skin wound was closed with cross mattress sutures using no. 1 black braided silk. The operated area was smeared with fly repellent ointment. Post operatively, animal was managed by isolating it from others and keeping it in a confinement till suture removal with access to ad libitum drinking water and adequate feed. A course of antibiotic (ceftriaxone), antihistaminic (chlorpheniramine maleate), steroid (dexamethasone at tapering dose) @ 10 mg/kg, 0.5 mg/kg, 0.25 mg/kg, respectively were administered through parenteral route for 7 days along with vitamin B Complex injection for 10 days. The sutured wound was dressed regularly with povidone iodine and fly repellent ointment. Sutures were removed on 8<sup>th</sup> day post surgery. Fenbendazole and praziquantel combination was administered after suture removal as it was never dewormed before.

Unlike all other helminthic diseases, cerebral coenurosis is also invariably present in small ruminants like goat of north bank of river Brahmaputra. In the present case, the goat showed circling movement towards right



Fig. 1. Surgical procedure; removal of cyst with manual traction, *inset left top:* Infiltration of Local Analgesia, *inset left bottom:* v-shaped incision, *inset right bottom:* post surgery with suture, *inset right top:* 8<sup>th</sup> day post surgery suture removal.



Fig. 2. Microscopic visualization of the scolex of Coenurus cerebralis.

side, since the location of cyst especially in brain determines the direction of circling movement as referred by other authors (Komnenou *et al.*, 2000; Misra and Behl, 2015; Khosa *et al.*, 2016; Abera *et al.*, 2016;). In the present case, clinical improvement was recorded from 3<sup>rd</sup> day post surgery and by the day of suture removal, animal

became normal enough to walk, eat or brows by itself. Contrary to a few reports by some authors (Soulsby, 1982; Misra and Behl, 2015) suggesting little value of surgical correction of gid, there are many literatures representing successful surgical removal of cyst with significant clinical improvement (Skerritt and Stallbaumer, 1984; Evangelisti *et al.*, 2016; Abera *et al.*, 2016; Rahman *et al.*, 2017) as observed in this present case.

## CONCLUSION

Present case report concludes that the surgical removal of clearly visible large sized cyst may be an easy curative method for the treatment of gid.

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