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CASE REPORT

Hind Limb Amputation in a Pregnant Bitch: A Case Report .

[1*]NWAIGWE A.N. and [2]KENE R.O.C.

[1]Department of Veterinary medicine. College of Veterinary Medicine . Michael Okpara University of Agriculture, Umudike.
[2] Department of Veterinary Surgery. Faculty of Veterinary Medicine. University of Nigeria , Nsukka.
* Correspondence: nwaigweadanma @yahoo.com; +2348030870827.

INTRODUCTION

Limb amputation is a surgical procedure commonly performed in dogs to remove a gangrenous injured limb (Ashley, 2011). Problems that can lead to canine amputation include bone cancer, accidents which may result in limb trauma occluding blood vessels, traumatizing the nerves, bones and soft tissues (Martin and Masters, 2007). An animal with painful leg injury will become depressed and once the leg is removed and the pain gone there is relief. The bitch was presented at the University of Nigeria Teaching Hospital with complaint of fracture of the distal right tibia which had become gangrenous at the time of presentation.

CASE REPORT

The case being reported here was that of a Doberman Bitch that was presented at the University of Nigeria, Nsukka Teaching Hospital with complaint of fracture of the distal right tibia which had become gangrenous at the time of presentation.

History of Fracture

The owner reported that the dog tried to jump from the second floor of a two storey building and landed on spikes on the wall of the fence before reaching the ground which resulted in open wound.

The dog was taken to a private Veterinary Doctor who handled the case for two weeks before referring to the University of Nigeria, Nsukka Teaching Hospital. The owner reported that the dog was bred about five weeks prior to the injury and was confirmed pregnant through ultrasound by the private veterinary Doctor. The bitch was a multipara. On presentation at the University of Nigeria Teaching Hospital, the Bitch was examined for physical and clinical abnormalities and thereafter sent to Radiology laboratory for X-ray of the injured limb and fracture of the distal tibia was confirmed. The clinical parameters at the time of presentation were as follows: Temperature 41^{o}C, Pulse rate 140beats/ min, Respiratory rate 35cycles/min.

Pre-operative Preparation

The Bitch was housed in the In-patient unit for two days prior to surgery. Feed was withheld for twelve hours before surgery and water eight hours so as to prevent asphyxiation by vomitus. The surgical site was shaved with hair clipper and washed with mild antiseptic soap, thereafter dried with clean towel and disinfected with pledgelets of cotton wool soaked in hibithane.

Sedation/Anaesthesia

Xylazine hydrochloride, Xylazine 20®, Kepro,Holland at the dose of 0.5mg/kg IM was injected as the Sedative followed by Ketamine Hydrochloride, Ketamine ® Protexmedica Germany at the dose of 50mg/kg IM.

Surgical procedure

The middle third of femur above the stifle joint was chosen as the site of operation because it was intact and gives a good cosmetic appearance. The animal was placed in left lateral recumbency and a semicircular lateral and medial incision were made on the surgical site after proper draping of the entire limb. The lateral incision was gently curved from the fold of flank and ran to the level of the midshaft of the femur. It was then continued caudally and proximally to join the medial skin incision. After reflecting the skin flap on the medial aspect of the middle third of the femur, the Gracilis and the caudal belly of the Sartorius muscles were transected by blunt dissection. The femoral blood vessels were isolated and ligated and incision was made between the two ligatures on the blood vessels to control bleeding. The Pectineus muscle was then transected at its musculotendinous junction. After cutting all these muscles, the Quadriceps, the cranial belly of the Sartorius and the Biceps

femoris were transected at insertion. The quadriceps muscles were divided just proximal to the patella and the incision continued laterally and caudally through the Biceps femoris muscle. The transected Biceps femoris muscle was reflected proximally and the sciatic nerve identified and severed. After reflecting the biceps femoris muscle proximally, the Semi-membranosus, Semitendinosus and adductor muscles were transected at the level of mid femur. The femur was cut with bone saw and the leg removed. The blood vessels were ligated and the distal quadriceps muscle was drawn posteriorly to cover the stump of the transected femur and it was sutured with the adductor muscle using cat gut so that the stump was completely covered by the muscles. The fascia on the lateral side of Biceps femoris muscle was sutured to the fascia on the medial side of Gracilis and Semitendinosus muscle after placing the sutures from the Quadriceps muscles to the Adductor muscle. The lateral fascia of the Tensor fascia lata was also sutured to the medial fascia of the Sartorius muscle. The skin flaps were brought in apposition and the edges were sutured with interrupted suture using Nylon. The suture on the skin was removed twelve days post surgery.

POST OPERATIVE CARE

The bitch was injected Penicillin at the dose of 10,000IU/Kg IM and Streptomycin at the dose of10mg/Kg IM after the surgery and housed in the in-patient house for the next ten days. Daily dressing of the surgical site with disinfectants and topical application of antibiotics was done for the ten days. However by day four post surgery the wound became suppurative and was exuding mucopurulent discharge. Following culture and sensitivity test which revealed Streptococcus *Spp*. The bitch was injected enrofloxacin at the dose of 5mg/Kg SC and subjected to daily exercise by walking short distances as physiotherapeutic treatment to get acquainted with walking on three legs until the wound was completely healed. The sutures were removed on the twelfth day when the wound was completely healed and the clinical parameters within normal range as follows: Temperature 38.6^{0}C, Pulse rate 75 beats/ Min, Respiratory rate 20 cycles/ min.

DISCUSSION

The striking thing about this report is that the bitch whelped four puppies barely four weeks after the surgery and all the puppies were monitored for survivability by clinical examination for three months and no mortality was recorded. Hall *et al.* (2001) reported that Ketamine when used alone causes convulsion in dogs, but combination with sedatives like Xylazine induced sedation or light anaesthesia. In the same vein Bishop (2005) stated that Xylazine when used alone may cause emesis in Dogs and some breeds like Great Danes, Irish Setters and Basset Hounds are susceptible to bloat after Xylazine administration. Survival of the puppies in utero after the surgery suggests that combination of Ketamine and Xylazine does not have harmful effect even on the pregnant animal though it may have crossed the placenta. Floss and Harden (2008) reported that trauma among other factors such as drugs, reproductive diseases; cancer as well as insufficient progesterone production can cause abortion in dogs. It may be that the amount stress hormone induced by the trauma was not sufficient to induce abortion. Amputation is done to either save the pet's life or ease pain (Davis, 2007). However this case report depicts that tripod can successfully give birth without complications.

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