

Contributions to the study of rooster orchidectomy

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Abstract

Castration of the rooster, also called claponage is an operative intervention that contributes to the quantitative and qualitative increase of the meat obtained. The capon is calmer, being concerned only with feeding, and the "crowing of the rooster" disappears because it no longer relates. The meat obtained is superior in terms of quantity and taste, as the slaughter of the capons is performed at an early age compared to the uncastrated ones. These beneficial aspects are reduced by the fact that the intracavitary topography of the testicles exposes to intraoperative accidents which, in most cases, are fatal. (8,3). Due to this fact, the study performed in this surgery aimed to identify the factors that contribute to the occurrence of hemorrhagic accident. In this sense, the hemorrhagic accident was correlated with the age of the rooster at the time of clapping and the operative access used. In the rooster, the testicles are in the abdominal cavity, just before the kidneys (6,10,9). They are oriented parallel to the ceiling of the cavity, at a distance of 0.5 - 1 cm from each other, with the anterior pole reaching the level of the last two ribs, and with the posterior one slightly exceed the costal wall (1, 9). The shape of the testicles is ovoid, resembling a bean, the left one being larger than the right one. Their color is yellowish white. The testicles are held in place by the testicular ligament (mesorchium), which is short and crossed by the spermatic artery and vein. Between the two testicular ligaments, under the spine, the aorta and the caudal vena cava have passed, vessels of vital importance having thin walls as they are protected by the testicles in this area. In roosters over six months of age, these vessels are so developed that damage to their integrity causes heavy bleeding. Due to this fact, the capping operation can be accompanied by the danger of a fatal hemorrhage (1, 2, 4, 7, 8).

Material and method

The study aimed to correlate the hemorrhagic accident with the age of the rooster at the time of surgery, with the practice of laparotomy to create operative access and how to apply the loop of the polypotome on the testicular ligament and tightening it. 32 roosters were subjected to the orchidectomy operation, of which, at 22, the laparotomy was performed in the last intercostal space, and at 10 behind the last rib. The age of the roosters varied between 8 and 14 weeks.

The preoperative preparations were those indicated for the success of any surgery. In this sense, the roosters were subjected to a 24-hour diet, during which time they received only water at their discretion. The diet helped to empty the intestines so that they could be easily moved out of the operating field. The instrumentation was represented by the scalpel for the capping, the automatic spacer, the hook for opening the air sacs, the clamping cap, the polypotome with a handle, to which are added the necessary materials for suturing. The lack of a polypot can be replaced by a hemostatic forceps with a more pronounced curvature.

The operative peace was ensured by the intramuscular administration of xylazine in a dose of 2 mg / kg body weight, and after ten minutes Ketamine was administered in the same way in a dose of 20 mg / kg. The anesthetic combination ensured the comfort necessary for the execution of the operative act, the bird being able to be placed on the operating table in lateral decubitus, with the limbs in extension and the wings stretched far back and forth, cost-abdominal region. The wings can be held in place by applying a clamp that secures the plumage.

The place of choice was represented by the last intercostal space or the posterior face of the last rib, in relation to the operator access used. The skin area plummets bilaterally. Anoperatively, anisepticize with sanitary alcohol.

The creation of the operative access by laparotomy in the last intercostal space was made by making a skin incision, in this space, vertically, at a distance of 3-4 cm. The incision starts near the cost-vertebral joint and descends as close as possible to the anterior edge of the last rib, thus avoiding the injury of the intercostal vessels, which follow the posterior contour of the anterior rib. Also, during the execution of the skin incision, the skin moves slightly forward so that the skin

incision does not overlap with that of the muscles. Laparotomy continues with the incision of the muscles in the operating field, creating access to the abdominal cavity. By applying the automatic divider and fixing one arm on the slider of the other arm, the created access is kept open. The absence of the automatic diverter can be replaced by a blepharostat.

With the sharp tip of the hook, the wall of the posterior air sac is perforated, in the operating field appearing the intestinal loops. With the widened end of the hook, the intestinal loops move from the operating field, revealing the testicle. The identification of the testicle was facilitated by the light from the headlamp. On palpation the testicle has low consistency as the testicular albuginea is very fine compared to other species.

Orchidectomy is the important intraoperative moment responsible for triggering fatal hemorrhage. The loop of the polypot is inserted in the abdominal cavity and benefiting from the projected light, the loop is fixed at the base of the testicle, respectively on the testicular ligament. The loop should not be too close to the testicle as tightening can rupture fragments of the testicle due to the fragility of the testicular albuginea. However, the application of the loop too low, respectively towards the dorsal region of the abdominal cavity, appears the danger that during the tightening of the loop or the forceps and their torsion to be affected the vessels sheltered at this level, respectively the posterior vena cava or aorta triggering fatal hemorrhage. These accidents can also occur when using curved hemostatic forceps. The forceps are applied to the ligament, and the ablation is performed by digital twisting of the testicle, without crushing or tearing, accidents that cause bleeding.

In case of using the operative access by laparotomy behind the last rib, the incision of 3-4 cm. it is practiced starting from the cost-vertebral joint, descending to 0.4-0.5 cm. by the posterior contour of the last rib. Through this access, the posterior pole of the testicle appears in the operating field. The application of the loop of the polypot is more difficult, as it must be passed under the last rib to cover the entire testicle.

The orchidectomy operation is completed by closing the wound for operative access. The edges of the wound are faced in a single layer, using non-absorbable thread passed in separate points or in the surface. Friction with iodine tincture is performed around the suture, and the threads are removed after two weeks. The rooster is turned on the other side and restrains itself. The local preparation being performed at the beginning of the operation, the plucked place is decontaminated and the orchidectomy is performed, following the same technique. Postoperatively, the rooster is accommodated in a limited space, but to allow it to move, as waking up from anesthesia is done in about 45-60 minutes.

Possible complications are hemorrhage and subcutaneous emphysema. Hemorrhage is considered the most serious complication. If it comes from the aorta or posterior vena cava, death occurs within minutes. Hemorrhage following the injury of the internal spermatic artery causes death within 10-20 minutes. The main sign of slow bleeding is the pallor of the ridge. Injury to the intercostal artery-venous cord causes a slow hemorrhage that is combated by tamponade.

Subcutaneous emphysema occurs as a result of suture mistakes, respectively by incorrect coping of the muscle layer allowing air to enter the air sacs between the facing edges and subcutaneous stationary. The complication is combated in relation to the volume of air accumulated. If the emphysema is reduced in area and tension, aseptic needles can be made with a needle for intramuscular injections, and the skin is evacuated by skin compressions. In case of accumulation of a larger quantity, 1-2 stitches can be removed, in relation to the location, evacuation of air and restoration of the suture.

Results and discussions

Rooster orchidectomy is an intervention that requires a lot of attention in observing the surgical technique, both in creating the operative access and during the ablation of the testicle. To this statement is added the observance of the age of the rooster subject to the intervention, the data obtained are presented in the table.

The results obtained in orchidectomy

Age at castration in weeks	Intercostal operator access			Retrocostal operator access		
	Operated roosters	Mortality		Operated roosters	Mortality	
		Nr.	%		Nr.	%
8	8	-	-	3	-	-
9-10	6	-	-	2	1	50
Total	14	-	-	5	1	20
11-12	4	1	25	2	1	50
13-14	4	1	25	3	1	33
Total	8	2	25	5	2	41,5

The analysis of the data in the table highlights the fact that the orchidectomy is successfully performed at the age of 8-10 weeks using intercostal operative access, the recovery being 100%. In the case of using retrocostal operator access, at the same age category, accidents due to mortality represent 20%. Although the testicles are small, the weight of holding the testicular ligament in the loop of the polypot, or the arms of the forceps, requires many maneuvers that can injure the vessels in the ligament.

In 11-14 week old roosters, mortality due to intra and postoperative hemorrhage can reach 25% through intercostal access, respectively 41.5% in the case of retrocostal operative access.

Concluzii

1. Chicken orchidectomy is a surgery in which the results depend on the age of the operated, the operative access path and the testicular excision maneuvers.
2. It is recommended that the orchidectomy be performed in the age range of 8-10 weeks, using intercostal operative access, the recovery being 100%.
3. The advanced age of the cock leads to the shortening of the growing testicular ligament difficulties in ensuring hemostasis in the testicular ablation work.
4. Place of application of the loop of the polypot or forceps for excision on the ligament testicular should be at equal distance between the ceiling of the abdominal cavity and the testicle, thus avoiding complications of hemorrhage or spread of testicular parenchyma on the abdominal serosa.

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