

BRIEF COMMUNICATION

A TECHNIQUE FOR THE FISTULATION OF THE
HEN'S OVIDUCT THROUGH THE ABDOMINAL
WALL, WITH RECOVERY OF THE OVUM

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Summary. A technique has been described for the fistulation of the hen's oviduct through the abdominal wall with recovery of the ovum.

Tarchanoff (1884) exteriorized the infundibulum through the abdominal wall, and Wentworth (1960) described a technique for dividing the oviduct between the magnum and infundibulum, and creating a fistula on the left dorso-lateral thoracic region. Wentworth did not specify the breed of bird used, and this technique was found to be unsatisfactory in the comparatively small Brown Leghorns of the Poultry Research Centre flock, since the area available was not adequate; a fistula in this region impaired movement of the leg and, to some extent, the wing. The stress placed on the skin by these movements also resulted in frequent breakdown of the suture line. Furthermore, neither method allowed recovery of the ovum, which was required in current investigations.

This communication describes a modification of Tarchanoff's technique with the successful fistulation of the oviduct through the abdominal wall, and recovery of the ovum.

Three female Brown Leghorns of the Poultry Research Centre flock between the ages of 1 and 2 years were used, although there was no apparent reason why the operation could not be performed on younger birds which are sexually mature. The birds were anaesthetized with sodium pentobarbitone* and ether and placed in the supine position with the legs outstretched. The feathers were removed from the abdomen, the skin swabbed with 70% alcohol and a 7 cm incision made approximately 3 cm to the left of the midline and 1 cm anterior to the cloacal opening. The incision through the musculature of the body wall was slightly shorter. The gut was 'packed off' with moist cotton wool and retracted to the right to expose the coiled oviduct. A suitable loop of the oviduct was carefully manipulated to the wound site and a stay suture of 5/0 U.S.P. Mersilk† placed through the muscles and peritoneum of the body wall about 1 cm from the anterior end of the incision and then through the oviduct. The oviduct was gently placed along the left side of the incision and a further stay suture similarly inserted posteriorly. The oviduct was sutured to the left body

* Nembutal: Abbott Laboratories.

† Ethicon Ltd.

wall and peritoneum with about five to seven interrupted sutures. The 'packing' round the gut was removed.

Starting at the anterior end, the peritoneum and body wall were closed together with a continuous row of sutures (3/0 chromic gut, B.P.*). This was carried up to the first stay suture and tied, but the end was left long with the needle attached. Similarly the posterior region of the body wall incision was closed. The suturing of the oviduct was carried round to the right side with a further five to seven interrupted silk sutures. At this stage any gap remaining at either end between the oviduct and body wall was closed using appropriate needle and chromic gut from the continuous suture line. All excess suture material was then trimmed.

The oviduct was carefully opened along the midline, folded back and about ten to twelve silk sutures inserted through it and the body wall to evert the fold in the form of a cuff. A flanged polythene sleeve constructed from the neck of a widemouth 4 oz polythene bottle was inserted beneath the skin (Wentworth, 1960) and the skin incision closed around the flange. A purse-string suture of 5/0 U.S.P. Mersilk was placed around the sleeve to hold it firmly in place over the fistula and to prevent accidental dislodgement. The wound was well dusted with sulphanilamide and the birds given Oral Veterinary Aureomycin† (chlortetracycline hydrochloride) in the drinking water for about a week to 10 days.

The fistula was successful in all cases and the wound healed rapidly. Two of the birds had resumed ovulating and voiding the ovum within 2 days. During the first 2 days after surgery a copious flow of albumen had to be removed every 2 or 3 hr. This subsided rapidly, and for the next few days cleaning once daily was sufficient. Thereafter cleaning was only carried out when needed. At the time of cleaning the wound was dressed with Aureomycin‡ until healing was complete.

After recovery from the immediate effects of surgery the birds have remained in good condition for 4 months without any signs of ill-health or deterioration of the fistula; a tendency for the fistula to close during a long pause in egg production was easily corrected. Approximately sixty ova have been recovered.

Since the production of artificial eggs would have obscured the results of the present investigation no attempt has been made in this direction as yet. However, objects were easily placed in the oviduct and then withdrawn after a short period.

The placing of a fistula in this region has several advantages over the method described by Wentworth (1960). Handling of the oviduct is easier, it remains entire apart from the incision, and in small-bodied breeds such as the Brown Leghorn the operation does not impair normal movements or nesting of the bird in any way. Furthermore, as an advantage over both previous methods (Tarchanoff, 1884; Wentworth, 1960), this preparation enables not only the insertion of objects into the oviduct, but also the collection of the ovum. Within certain limits, any desired point along the length of the oviduct can be brought to the surface, allowing an extensive investigation of oviduct function. Investigations using this technique are in progress.

* Ethicon Ltd.

† Cyanamid Co.

‡ Lederle Laboratories.

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