Partial pubis and ischium resection for enlargement of sublumbar lymph node with evacuation difficulties in a dog.

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Abstract

A 7-year-old, female, Miniature Dachshund underwent an excision of an anal sac apocrine gland adenocarcinoma without hypercalcemia, which was in the right side of the anal canal, 3×2.5×2.5 cm in size. A sublumbar lymph node was enlarged to 2.5 cm with neoplastic cells with moderate atypia. The area was irradiated in four fractions once a week for a total of 24 Gy. On day 498, the mass in the sublumbar lymph node area was enlarged to 3.2 cm, and two lung metastases were apparent. Therefore, partial resection of the pubis and ischium was performed to dilate the pelvic cavity on day 511. The bones were removed using a rongeur, the pubis was resected up to the junction with the ilium, and the ischium was resected up to the diameter of the rectum. The resected edges of bone were ground and smoothed. The muscles were not sutured, but the subcutaneous layer and skin were sutured. The evacuation difficulties and stool flattening disappeared on the day following the operation, and there was no evidence of lameness. On day 657 after the primary surgery, the evacuation difficulties recurred. On day 934 after the primary operation, it was reported that time required for defecation continued to increase gradually but that the general condition was good.

Key word: anal sac adenocarcinoma, canine, evacuation, pelvis and ischium resection, sublumbar lymphadenopathy

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A 7-year-old, female, Miniature Dachshund, weighing 5.0 kg, was presented with a perianal mass at the Veterinary Teaching Hospital, Azabu University. Physical examination showed a firm mass in the right side of the anal canal, 3×2.5×2.5 cm in size. Abdominal ultrasonography showed enlargement (2.5×2.0 cm in size) of the sublumbar lymph node. Thoracic radiographs showed neither metastasis nor other abnormalities. Complete blood count and serum chemistry analysis were performed but did not reveal any significant abnormality. Cytology of the sublumbar lymph node revealed neoplastic cells with moderate atypia. Tru-cut biopsy was performed on the perianal mass. The histopathological examination demonstrated an anal grand apocrine gland adenocarcinoma. The dog underwent an excision of the anal sac apocrine gland adenocarcinoma, and the sublumbar lymph node area was irradiated in four fractions once a week for a total of 24 Gy. The pathological examination showed five mitotic figures per 10 high-power fields, and the surgical margin contained malignant cells. To control the microscopic residual disease, carboplatin (Paraplatin, Bristol-Myers Squibb, New York, USA) was administered at 120mg/m² every 3 weeks for adjuvant chemotherapy.

On day 218 after the primary operation, lung metastasis was strongly suspected on the basis of a 1.5-cm-diameter, radiopaque mass found in the caudal parts of the left cranial lobe on the chest X-ray (Fig. 1). On day 307 after the primary operation, a 0.5-cm-diameter mass was found in the right side of the anal canal, the site of the surgical wound, and it gradually become enlarged. By that time, the soft mass in the sublumbar lymph node area had slowly become enlarged to 2.7 cm, and intermittent extension of defecation time and stool flattening had occurred. Because there was a lung metastasis, and evacuation was possible, surgery was refused by the owner.

On day 456 after the primary operation, the radiopaque mass in the caudal parts of the left cranial lobe increased its diameter to 2.6 cm, and a new, 1.3-cm, radiopaque mass was found in the right middle lobe. At this time, the recurrent mass near the anal area was seen with an increased diameter of 3 cm.

On day 498 after the operation, the mass in the sublumbar lymph node area was enlarged to 3.2 cm, and the time required for defecation was seen constantly prolonged (Fig. 2). The owner decided on the operation to treat evacuation difficulty. On computed tomography (CT) and ultrasound scans, an enlarged lymph node was apparent near the internal iliac artery and colon to cause narrowing of the pelvic cavity (Fig. 2). Therefore, attempts were made to dilate the pelvic cavity by partial resection of the pubis and ischium on day 511. The operative procedure was as follows. The skin and subcutaneous tissue were incised in the midline. The adductors and gracilis muscles were also incised in the midline and then separated from the periosteum until both sides of the obturator foramina were revealed, followed by resections of parts of the pubis and ischium by raspatorium and scissors. Using a rongeur, the pubis was resected up to the junction with the ilium, and the ischium was resected up to the diameter of the rectum. The resected edges of the bone were ground and

Fig. 1. Lateral (left) and ventrodorsal (right) views of the thorax (218 days after primary operation).

A radiopaque mass, 1.5 cm in diameter, is apparent in the caudal parts of the left cranial lobe.
smoothed. The muscles were not sutured, but the subcutis and the skin were sutured equally at the same layer because it was necessary to leave some degree of caudal ventral hernia as a part of therapy (Fig. 3).

On the day following the operation, the evacuation difficulties and stool flattening disappeared, and there was no evidence of lameness. The adjuvant chemotherapy was continued after surgery. On day 657 after the primary operation, the evacuation difficulties recurred (Fig. 4). The size of the mass in the sublumbar lymph node area was the same (approx. 3 cm), but it was much harder than it used to be previously. The local recurrent mass was enlarged (4.5×4.5×4 cm), and two radiopaque lung masses (3.2 cm in the caudal parts of the left cranial lobe, 1.5 cm in the right middle lobe) enlarged slowly. On day 673 after the primary operation, sufficient defecation was possible, but occasional tenesmus was noted. Chemotherapy was discontinued due to possible deterioration of the renal function. There was mild hydronephrosis of the right kidney associated with compression of the ureter by the enlarged lymph node. Carboplatin was administered in total...
of 26 doses, and the cumulative dose was 2,980 mg/m². The radiopaque masses of the lung had enlarged and increased in number, but no respiratory symptoms had appeared. On day 934 after the primary operation, the owner reported that the time required for defecation was gradually prolonged, but that the general condition of the patient was good.

In the present case, the pressure from the enlarged sublumbar lymph node on the rectum was released by partial pubis and ischium resections, and defecation remained adequate 5 months later. Though tenesmus sometimes occurred, sufficient defecation was possible. No symptoms associated with ventral hernia, lameness, or other complications have occurred.

Long survival following lymphadenectomy for lymph node metastasis has been reported [3]. In the present case, when the regional lymph node metastasis was found, the owner requested irradiation. If the lymphadenectomy was performed, symptoms associated with lymphadenopathy would not have occurred or would have been delayed. When lymphadenectomy is not possible, radiation therapy is recommended. In another type of tumor, Fujita et al. reported irradiation of a prostate cancer using small fractionated irradiation. It was reported that the tumor enlargement was stopped, and the survival time was long, though the tumor developed in the pelvic cavity could cause an evacuation problem [2]. However, in the present case, tumor suppression was insufficient with progressive lymphadenopathy after irradiation, and partial resection of the pelvis was performed as a palliative therapy.

This procedure is the same approach as that used for a mass resection in the pelvic cavity [6]. For treatment of evacuation difficulties not associated with lymphadenectomy, it is a relatively easy and useful method. Consequently, it can be generally adapted for tumors of organs in the pelvic cavity (prostate gland and sublumbar lymph nodes, etc.). In this method, the abdominal muscles are not sutured when closing the abdominal cavity, intentionally resulting in a ventral hernia. However, this is not a problem, because the rectum and urethra are in the hernia, and there is no possibility for other organs to be there.

Another potential complication is lameness caused by damage to the nervus obturatorius, but it can be prevented by confirmation of the nerve position and by exerting care during the procedure. Lameness due to pelvic instability is also possible, but the dog could walk normally the day after the operation. Thus, this procedure is considered to be an easy and rapid-acting palliative method. Especially in cases following radiation therapy, or in those that cannot be irradiated, it is important to relieve evacuation problems.
References


腰下リンパ節腫大による排便困難に対して恥骨坐骨切除術を実施した犬の1例
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和文要約
7歳齢、雌、ダックスフントに発生した、肛門右側の肛門嚢腺癌を切除し、2.5cmに腫大した腰下リンパ節に対しては放射線治療（24Gy/4回/22日）を実施した。初回の切除から498日後、肛門嚢腺癌の腰下リンパ節腫大により便の扁平化と排便困難を呈した。511日に狭窄を解除するため、恥骨と坐骨の切除術を行った。切除後は、排便が可能となるとともに歩行にも異常はなかった。657日後からときおり排便に時間がかかるようになったが、934日後においても自力排便可能であった。

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