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DECOMPRESSIVE LAMINECTOMY FOR CERVICAL DISK PROTRUSION IN THE DOG

By

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In cases of herniated cervical disks in dogs the main symptoms are pains when moving which may be associated with mild symptoms of motor loss. For these forms of disk protrusion good results have been reported with disk fenestration according to *Olsson* (*Olsson 1951 a, Olsson & Hansen 1952, Olsson 1958, Pettit 1960*). At this surgical clinic experience with *Olsson's* operation, for the type of herniated disk in question, has been good. *Olsson's* report (1958), mentioned above, refers to material treated at the clinic between 1949—1956. From 1st January 1957 to 31st December 1961 disk fenestration has been performed in the clinic in 36 cases of herniated cervical disks where the dominant symptoms were pain when moving. In 32 of these cases it has been possible to get information about the postoperative course. In 27 of these 32 cases the animals became entirely free from symptoms according to the information given by their owners (follow-up examinations applying more objective methods have not been carried out). Since a comparative control material, treated conservatively, is not available, the therapeutic value of the operative method cannot be accurately determined. The fact that many of the cases, which showed appreciable improvement in connection with the operation, had had a relatively long history, indicates, however, that the procedure has, in general, a favourable effect on the healing process in this type of herniated disk.

The types of disk protrusion in dogs where the picture is dominated by symptoms of motor loss, do not appear to have

attracted special interest, to judge by the available literature. This may probably be attributed to the fact that cases with severe motor loss are relatively rare in comparison with the type of herniated disk first-mentioned. *Olsson & Hansen* (1952) describe 8 cases of herniated cervical disks of which 3 had such severe paresis of the fore limbs that the animals were unable to walk. One of these 3 animals was treated surgically, and this will subsequently be described. One of the other two dogs was killed at a relatively early stage, whereas the second died in connection with narcosis induced for diagnostic purposes. *Vaughan* (1958) reported 6 cases of quadriplegia in a material consisting of 16 dogs displaying symptoms of herniated cervical disks. One of these 6 dogs was treated surgically and will be described subsequently, whereas 5 were treated conservatively, with the result that 1 recovered, 1 died, and 3 had to be killed at a comparatively early stage. In a previous work I reported (*Funkquist* 1960) a number of cases (9) of quadriplegia or quadriparesis, with a probable diagnosis of herniated cervical disk, which were treated at the Departments of Medicine and of Surgery at the Royal Veterinary College, Stockholm, during the period 1st January 1957—30th June 1959. In the majority of cases the animals comprising this material also died, or had to be killed, at such an early stage that no conclusions could be drawn regarding prognosis after adequate conservative treatment. The available records of the clinics are laconic, but it appears that, in general, a rapid deterioration in the general condition of the animals or signs of severe pain were the reasons for euthanasia in the latter cases. Despite the fact that it is impossible at present to accurately judge prognosis in the case of conservative treatment of disk protrusion with symptoms of severe motor loss, it appears, in the light of the data given in the literature previously referred to, that an attempt to introduce a more active form of therapy is well warranted.

In human medicine, as a rule, herniated cervical disk, with symptoms of severe motor loss, is regarded as an indication for immediate surgical decompression (*Krayenbühl & Zander* 1953, *Kaaser & Bröchin* 1955, *Paillas, Piganiol & Sedan* 1959¹). The operation consists of laminectomy, which may be combined with the removal of the prolapsed disk substance and/or a division of the ligamenta denticulata. Reports on surgical treatment of

¹) Quoted in *Surg. Gyn. Obst.* 1960, 110, 442.

the corresponding state in dogs are rare, and this is in keeping with the previous statement regarding the relative rarity of the syndrome. *Olsson & Hansen* (1952) described 1 case of herniated disk with paresis of the fore limbs, and in 1958, *Vaughan* reported a case with quadriplegia, and in both cases the animals recovered after disk fenestration. On the other hand, *Olsson* in 1958 and *Pettit* in 1960 each reported 1 case with paresis of the fore limbs, where the animals were killed 3 and 6 weeks respectively after fenestration, without appreciable improvement having occurred. In an earlier work (previously mentioned) I have described a case of herniated cervical disk in which quadriplegia was present and where laminectomy was performed over the compressed area *without an attempt being made to remove the protruded disk substance*. The animal's condition, which remained unchanged for about 1 week before the operation, did not change appreciably during the first four days, but then rapid improvement set in, leading to complete restitution.

The investigation described below represents a further trial of the last mentioned principle of treatment. My main aim was to study the effect of the operation on animals where either quadriplegia or a high degree of quadriparesis was present. In order to investigate the possibly negative influence of the surgical trauma on the functions of the spinal cord I have operated also on animals with less severe motor loss. Finally, I have applied the same procedure to experimental dogs in order to study the way in which the postoperative healing process affects the shape of the spinal canal.

MATERIAL AND METHODS

1. *Laminectomy on healthy experimental dogs*

Two experimental dogs were used for the investigation. Their age was about 1 year and they weighed approximately 20 kg. Laminectomy, according to the technique subsequently described, was performed on one animal on the posterior part of C2, the whole of C3, and the anterior half of C4; and on the other animal on C5 and C6. The animals were observed for about 7 months, after which they were killed with an intravenous injection of Mebumal® in a dose of about 6 cg./kg. body weight. An intra-arterial injection of 10 per cent formalin (dissolved in physiological saline) was used for fixation. Then a cross-section was taken from the relevant portion of the vertebral column, with

the spinal cord *in situ*, according to a technique described in another paper (*Funkquist & Schantz 1962*). Cervical myelography with Kontrast U® (*Funkquist 1961*) was carried out some days before the animals were killed.

2. *Laminectomy performed on dogs with symptoms of herniated cervical disk*

The material comprised in all 9 dogs: 7 dachshunds, 1 peki-nese and 1 King Charles spaniel. On these animals 2 were bitches and 7 were male dogs. The age of the dogs varied between 2 and 9 years; in the majority of the cases their ages were between the limits of 6 and 9 years. At the time of operation the neurological status of the animals was as follows:

Signs of pain in varying degree were present in all these animals. These signs could be provoked by the slightest passive bending or stretching of the neck; and 3 of the animals cried at the slightest touch in general. In 4 cases the symptoms of *motor loss* were restricted to paresis of either one or both fore limbs and in 1 case the fore and hind limb of one side. These animals could be made to stand, and then they usually stood with their backs in a kyphotic position, supporting their noses on the ground. Sometimes they could take a few wobbling steps, but then, as a rule, they fell down. The other 4 dogs lay flat on their sides and were unable to walk. When trying to make these dogs stand up, they immediately fell down without trying to support themselves on their limbs. In these cases it was not possible to determine with any degree of accuracy whether the absence of voluntary motor activity in the extremities was due to true quadriplegia or was partly caused by pain. The further neurological examination was restricted to testing of spinal reflexes of the extremities, placing reflexes of the fore limbs and reaction to painful stimuli on the paw (moaning and/or turning of the head by pinching with a towel clamp). Placing reflexes were lacking in all the dogs in either one or both paretic fore limbs. The reflexes of the hind limbs were normal. In 3 cases reaction to painful stimuli in the paws was absent in one or more of the paretic legs.

In 2 cases the symptoms of motor loss appeared suddenly: in one dog while out walking, and in the other after jumping from a height of about 1 metre. In the remaining 7 dogs the period during which motor loss developed to maximal intensity varied

between 1 and 11 days. In 3 cases signs of pain on moving, which emanated from the region of the neck, were present for 1—3 weeks, before symptoms of motor loss became evident. At the time of operation the general condition of 5 of the dogs was found to be strongly affected. They made no attempt either to eat or drink, and they displayed clinical signs of advanced dehydration. The general condition of these animals showed a progressive deterioration in that part of the preoperative period during which they were under observation.

The radiological examination consisted of taking plain films (lateral exposures, and, in a few cases, frontal exposures) as well as myelography with Kontrast U® (*Funkquist 1961*). In 7 cases the latter investigation was carried out immediately before laminectomy, whereas in 2 cases it was made respectively 1 and 3 weeks earlier, the latter case being before the symptoms of motor loss began to appear. In 7 cases good quality myelograms were obtained; in 2 cases the main part of the contrast medium was deposited epidurally. In one of the two cases last mentioned the myelogram was quite unusable, whereas in the other case the small quantities of contrast medium which had been deposited in the subarachnoid space were sufficient for locating the compression.

In the ordinary radiological examinations it was possible to show that in all of the cases there was calcification of one or more disks in the neck region. The disk, which, on the basis of myelographic results and the findings in connection with laminectomy, could be considered as being responsible for the relevant symptoms of compression, showed in the ordinary radiological examination (lateral exposure) the following changes:

Calcification of the disk	2 cases
Calcification of the disk and deposition of calcium in a rupture in the dorsal part of the annulus fibrosus	2 cases
Calcification of the disk and diminution of the space between the vertebrae	1 case
Calcification of the disk; calcified protrusion in the spinal canal	1 case
No calcification of the disk; diminution of the space between the vertebrae	2 cases
No calcification of the disk; diminution of the space between the vertebrae.	
Calcified protrusion in the spinal canal	1 case

As regards the cervical disks that had no connection with the relevant symptoms of compression, the following data were observed on plain radiographs.

No changes	1 case
Calcification of one or more disks	5 cases
Calcification of one or more disks of which one disk is narrower than normal	3 cases

Myelography (Figs. 1 and 2) showed compression of some part of the cervical subarachnoid space in all the 8 cases where the myelograms obtained could be used for diagnostic purposes. The compression was situated above C3/C4 in 2 cases, C4/C5 in 2 cases, C5/C6 in 3 cases, and above C6/C7 in 1 case. If the degree of obstruction to the passage of the contrast medium is gauged by the myelograms of the 7 animals where the subarachnoid injection was completely successful, then we find that in 5 of the animals the contrast medium in the subarachnoid space can be demonstrated with certainty only caudal to the compression. In 2 of the cases a good contrast filling could be observed also cranial to the compression. There does not appear to have been any absolute correlation between the degree of obstruction of the passage of the contrast medium and the clinical symptoms, since one of the two animals, in which the contrast medium was clearly present in the subarachnoid space cranial to the compressed site, completely lacked voluntary motor activity of the extremities, whereas in the other animal the symptoms were confined to paresis of both fore limbs.

In the case where myelography was entirely unsuccessful, the changes above disk C4/C5, observable on a plain radiograph, were considered to suffice for the localization of the compression there (calcification of the disk and the deposition of calcified substance in a dorsal rupture of the annulus fibrosus).

With regard to the need for myelography in planning the operation, it was found that the ordinary roentgenologic examination showed only in 2 cases definite signs of pathologic changes that reduced the space of the spinal canal (calcified disk protrusion). On the other hand, if we consider the diagnosis of "herniated cervical disk" as established on the basis of the clinical symptoms, then in 4 more cases plain radiographs afforded good criteria for the localization of the ruptured disks. In 3 cases it

was only by means of myelography that it was possible to obtain any idea of the location of the compression.

In 2 of the animals the relevant disk was evacuated according to Olsson (*Olsson 1951 a*) at a separate operation before laminectomy was performed. At the time when the disk was to be evacuated, one of these animals had severe paresis of both fore limbs; its condition remained unchanged until laminectomy was performed (14 days later). The other animal, at the time when the disk was to be evacuated, had pains only when making movements of the neck region. About one week after the operation paresis developed in the right fore limb, and subsequently also in the left; because of this condition laminectomy was performed 14 days after the first operation.

Laminectomy over the compressed area was performed in all the cases according to the technique described below. In the 4 cases where "quadriplegia" was present there was a time interval of 1—2 days between the maximal intensity of the symptoms of motor loss and the operation. In the remaining 5 cases (where a certain voluntary motor activity persisted) the corresponding interval was 11 and 19 days respectively for the two animals in which the symptoms had appeared suddenly, whereas for the other 3 animals in this group laminectomy was performed while the symptoms were still in progress.

For the operation anesthesia was produced by pentothal sodium and nitrous oxide in combination with succinylcholine relaxation (*Hansson 1958*). The dog was placed in an abdominal position, and the skin over the affected area was incised dorsally along the median line. The dorsal cervical musculature was divided in a longitudinal direction. The plane of division largely coincided with the median plane; at the supra-spinous ligament it diverged however, and followed one of its lateral surfaces. When performing laminectomy over disk C2/C3 (on an experimental dog) the osseous attachment of the supra-spinous ligament to C2 was detached with bone-cutting forceps, in order to obtain an adequate view of the operative field. The dorsal surface of the vertebrae was exposed with a raspatory and the ligament between the vertebral arches in the relevant area for laminectomy was detached with a scalpel from its attachment to the cranial and caudal edges of the vertebral arches respectively. By means of gouge pincers of various sizes and starting from the exposed ligament attachments, the vertebral arches were successively

gouged away so as to expose the dorsal surface of the dura. Satisfactory exposure was achieved in all the cases without damaging the articular processes. In all the cases, in the area where, according to the radiological examination, the presence of a ruptured disk was suspected, the spinal cord (including its meninges) was found to be pressed against the roof of the spinal canal with such force, that it bulged like a hernia as soon as the slightest opening was established in the vertebral arches. With the guidance of the findings at operation laminectomy was extended over the entire compressed area. The extent of laminectomy comprised, in the longitudinal direction of the body, in 2 cases, about $\frac{2}{3}$ of the arch on both the vertebrae involved; in 6 cases, the entire arch of these two vertebrae; and in the remaining case, the whole arch of the two vertebrae and $\frac{2}{3}$ of the arch of the immediately anterior vertebra. When delimiting the site of laminectomy in the cranial and caudal direction, the presence of epidural fat dorsal to the dura was regarded as a sign of a normal condition in the spinal canal.

After the roof of the spinal canal had been removed, it was clearly visible how the spinal cord (including the meninges) formed in all cases a bulge with dorsal convexity over the affected disk. In 1 case parts of the prolapsed disk substance could, furthermore, be directly observed in the epidural space. It had the appearance of a blood-imbibed granulated mass situated lateral to the dura on the left side. In 4 cases dilated vessels of the leptomeninges (or of the cord surface) were visible through the dura; in another case there was a purple discoloration of the meninges (or of the cord) at the site of compression.

The spinal cord was disturbed as little as possible. No attempts were made to verify the diagnosis of disk protrusion by probing or palpation or to remove the protruded disk substance. The musculature was sutured with continuous catgut and the skin with stainless wire. In the animal, where the attachment of the supra-spinous ligament to C2 had been removed, the detached portion of the processus spinosus was fixed in the normal position by means of a 0.5 mm. suture of smooth stainless wire. During the first part of the postoperative period the animals were given Aminosol-Glucose® (Vitrum) and Ringer's solution intravenously or subcutaneously in such doses that they received about 20 ml. of fluid per kg. body weight and day. The supply of fluid was continued until the animals began to take food and water to a

normal extent (supporting the head seemed to facilitate eating and drinking during the first postoperative days).

The observation period for the surviving clinical cases varied between 14 months and 21 months. For 3 of the animals the observation time was $\frac{1}{2}$ —1 year, and for 3 others more than 1 year. During the first 2—3 weeks the animals were observed daily with regard to symptoms of motor loss and signs of pain. Furthermore, a similar examination was made at the end of the observation periods previously referred to.

RESULTS

1. *Laminectomy performed on healthy experimental dogs*

Signs of pain in connection with active or passive movements of the neck were observed during the first days after operation. In one dog signs of mild pain on strong passive turning of the neck persisted for about 2 months after operation. Symptoms of motor loss were not observed. At the examination made at the end of the observation period, both animals had normal movements and there were no signs of pain in connection with the active or passive movements of the head and neck of the dogs. The myelograms for both animals were normal (Fig. 3).

The defect in the roof of the spinal canal, which was produced at operation, was found, at patho-anatomic examination, to be filled with fibrous connective tissue poor in cells. No appreciable decrease in the volume of the spinal canal or deformation of the cross-section of the spinal cord was observed. The presence of epidural fat was noted also dorsal to the dura.

2. *Laminectomy on dogs with symptoms of herniated cervical disks*

Two of the dogs died respectively 3 days and 1 day after operation. The former, on which, 2 weeks before laminectomy, an operation for the evacuation of the relevant disk was performed, displayed preoperatively a high degree of paresis in both fore limbs, severe dehydration, and a severely affected general condition. At necropsy the diagnosis of herniated disk was verified, but nothing worthy of note was observed in addition to the lesions caused by the ruptured disk and the operations. The other animal was "quadriplegic", but preoperatively its general condition was essentially better. In this case necropsy disclosed, in addition to the clinically diagnosed herniated disk and changes

connected with the trauma of the operation, large quantities of the contents of the stomach aspirated into the bronchi.

For the 7 surviving animals the postoperative course was as follows: The 4 animals, which could stand or walk a few steps at the time of the operation, could also, when they recovered from the anesthesia, be made to stand, but they were unwilling to walk. During the first few days after operation their neurological status showed a progressive improvement. Especially marked was the improvement that usually took place after 7—10 days. All 4 dogs were able to trot relatively well within 7—12 days after operation. It was difficult to judge the immediate effects of operative trauma on the 3 animals which, at the time of the operation, exhibited “quadriplegia”. The condition of 1 of these animals was, to a great extent, unchanged during the first few days, subsequently its neurological status improved progressively, so that two weeks after operation it was able to trot comparatively well. The 2 remaining dogs could stand the day after they were operated on; they could take one or two steps after 3—4 days, and were able to walk and trot about 1 week after operation. To start with, all 7 dogs had taken short steps; they had held their necks stiffly and been unwilling to raise their heads. A slight unsteadiness when making rapid, abrupt turns often persisted for 1—2 months after operation. At the follow-up investigation from 1 to 21 months after operation the movements were normal, and the signs of pain in connection with both passive and active movements of the neck were entirely absent. In 1 case the owner stated, however, that the dog (5 months after operation) displays, after strenuous exercise, an insignificant weakness in one of its hind limbs.

DISCUSSION

The picture of the symptoms of a herniated thoracic or lumbar disk whose course displays “progressively ascending paralysis” (*Olsson 1951 b, Hansen 1952, Hoerlein 1953, Smith & King 1954, McGrath 1956, Vaughan 1958*) may resemble, in certain respects, the symptoms exhibited by a herniated cervical disk which has caused paresis or paralysis affecting all the extremities. Even in the former syndrome paralysis may involve both the fore and hind extremities, and signs of pain in connection with movements in the region of the neck may also be present. According to the experience gained at this clinic with regard to 24 cases of

ascending paralysis, where at necropsy widespread myelomalacia was established, this type of damage to the cord is, however, characterized by flaccid paralysis with hyporeflexia or areflexia in the hind limbs and absence of reaction to painful stimuli in the hind paws. Moreover, at the stage where quadriplegia develops the animals usually appear to be apathetic and have subnormal body-temperature. In cases, of herniated cervical disks with quadriplegia, the hind limbs have, as a rule, normal spinal reflexes and sensibility to pain is also normal. Furthermore, despite the great deterioration in their general condition which occurs sometimes, these dogs seem to be fully conscious of their surroundings.

The method of treatment applied implies that decompressive laminectomy is performed in the area of compression of the spinal cord, whereas no attempt is made to remove the prolapsed disk substance. If the previously described case (*Funkquist* 1960) is included in the material, the treatment has been applied to a total of 10 animals. Two of these dogs died during the first 1—3 days, whereas the remainder progressively recovered. The absence of control material with a sufficient observation period precludes the possibility of accurately judging the therapeutic value of the operative method; but the fact that the surviving cases of “quadriplegia”, irrespective of the duration of the preoperative period of paralysis, exhibited great similarities with regard to their postoperative course, indicates, however, that the procedure influenced the course of the disease.

In all the animals where motor loss reached such a stage that they were unable to walk, their general condition rapidly deteriorated during the preoperative period. Consequently, in any future testing of the method of treatment, the operation should be performed as soon as possible, quite apart from the important role played by the time factor in the chance of recovering from the damage to the spinal cord (*Tarlov* 1954).

It has been shown in a previous work (*Funkquist & Schantz* 1962) that an extensive laminectomy (including the removal of the articular processes) at the junction between the thoracic and the lumbar parts of the vertebral column may involve the risk of secondary spinal cord compression during the healing process¹⁾

¹⁾ The risk of secondary compression of the spinal cord after thoraco-lumbar laminectomy may be reduced if the operation is performed according to a special technique to be described elsewhere.

(Fig. 4). The risk of such compression appears to be less when a correspondingly extensive laminectomy is performed further cranially in the thoracic region (Fig. 5). The difference seems to be due to the fact that in the former case the tissue, which fills the defect in the roof of the vertebral canal, has its most important osseous points of attachment situated on the cut surfaces of the vertebral arch, whereas in the latter case the tissue has attachments also to the *Processi transversi* and to the ribs. When, by the shrinkage of the scar, the tissue becomes tense between its osseous points of attachment, in the first case it presses the spinal cord against the floor of the vertebral canal, whereas in the latter case it acquires a position on a level relatively high above the floor of the spinal canal, and thus a secondary compression of the spinal cord is avoided. The results of the experimental laminectomies performed in the cervical region (Fig. 6) indicate that the effects of operation in this region closely resemble the conditions in the thoracic region, that is to say, there is no great risk of secondary spinal cord compression when the cord is situated in its normal place in the vertebral canal. The probable reason for this is, that it is possible in the cervical region, on account of anatomical conditions, to establish effective decompression without the removal of articular processes. Whether there is a risk of secondary spinal-cord compression in the cervical region, if, at the time of operation, the spinal cord is elevated in consequence of a pathological process situated ventrally in the spinal canal, cannot be ascertained from the experiments in question. The absence of serious complications occurring subsequently in the operated cases of ruptured disks indicates, however, that this risk cannot be great.

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Fig. 1. Myelogram of the cervical region in a dog with signs of severe compression of the cervical spinal cord (lumbar subarachnoid injection of Kontrast U). Behind disk C5/C6 total blockage of the passage of the contrast medium in a cranial direction.

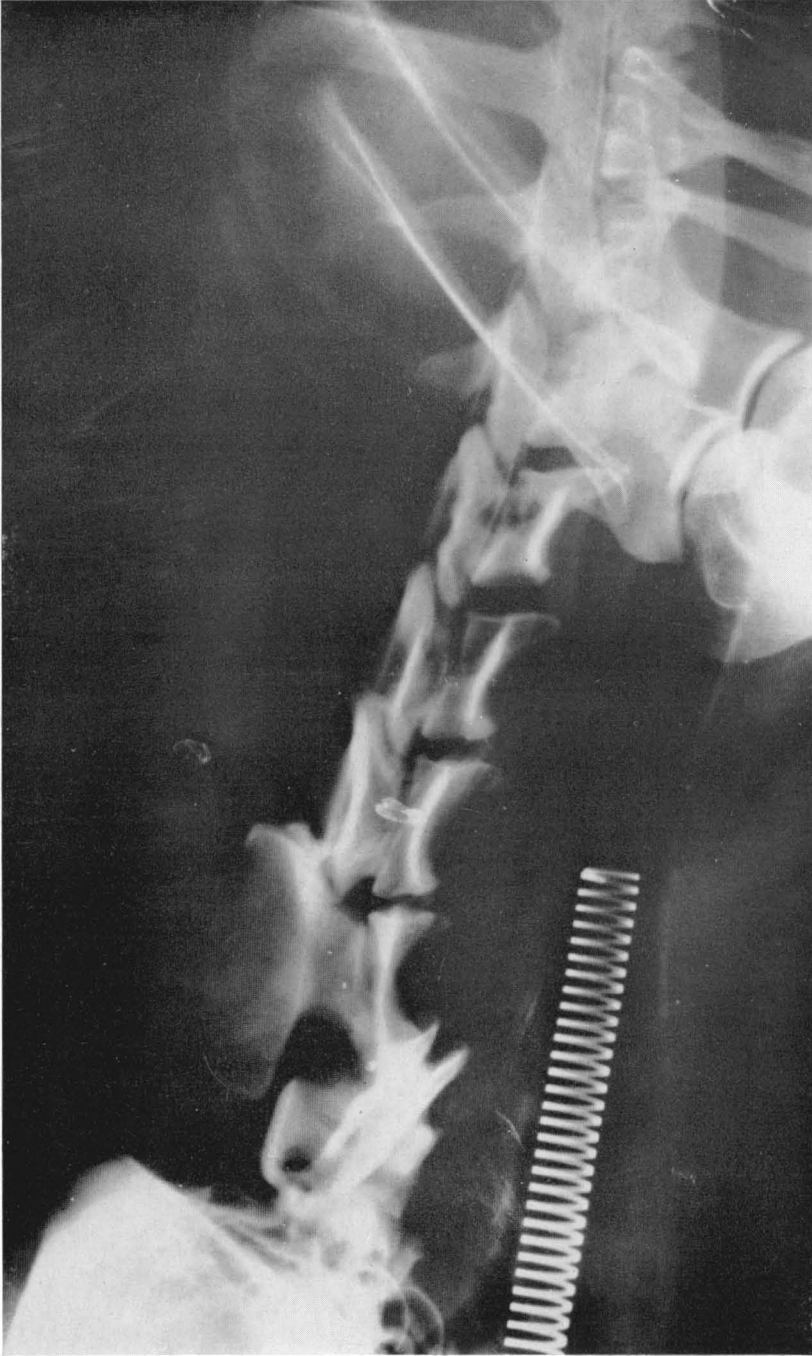


Fig. 2. Myelogram of the cervical region in a dog with signs of severe compression of the cervical spinal cord. Over disk C6/C7 and over C7 the borderlines of the contrast column are thinned and show, moreover, a distinct bulge with dorsal convexity (especially the ventral line). Good contrast filling in the area immediately cranial to the compression.

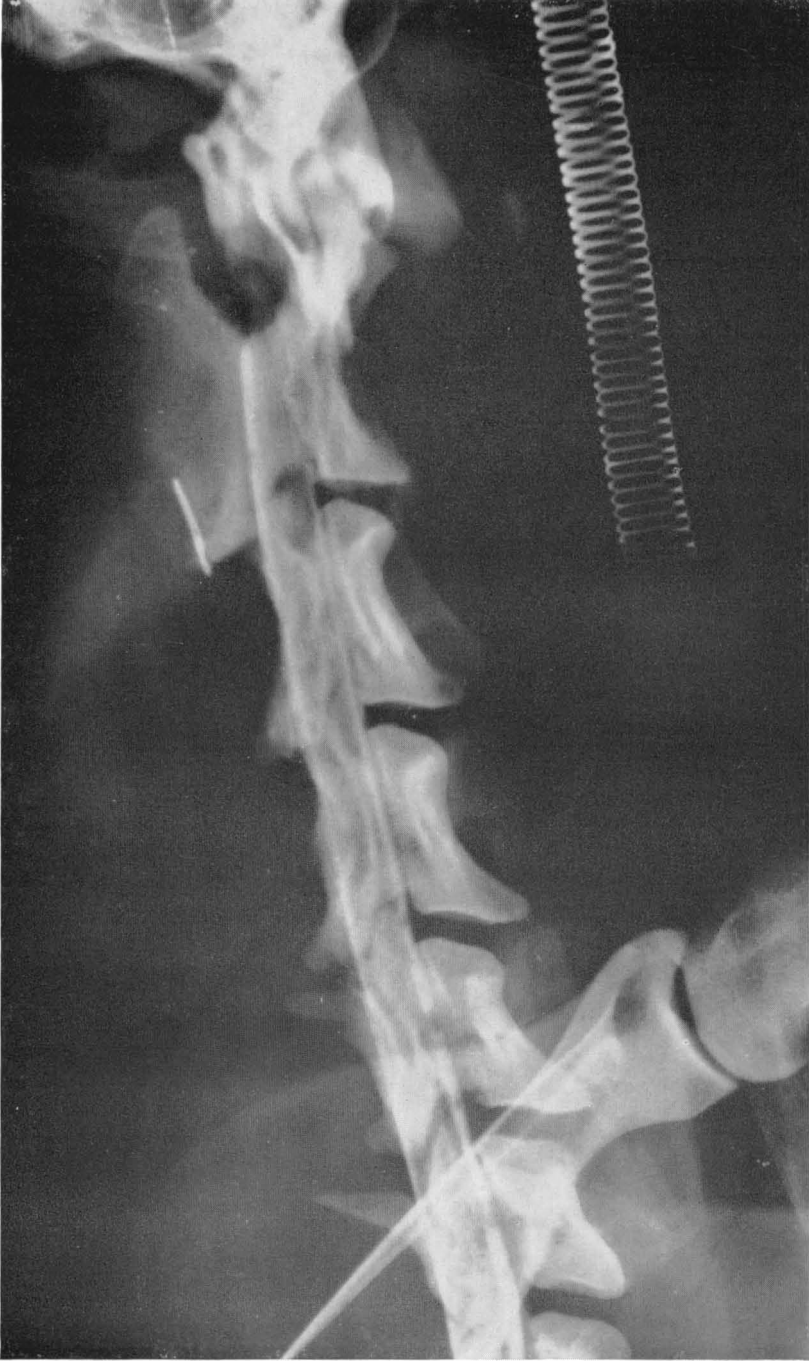


Fig. 3. Myelogram of the cervical region of an experimental dog on which total laminectomy on C3 and partial laminectomy on C2 and C4 were performed about 6 months earlier. Normal contrast filling of the subarachnoid space in the entire cervical region including the laminectomized part.

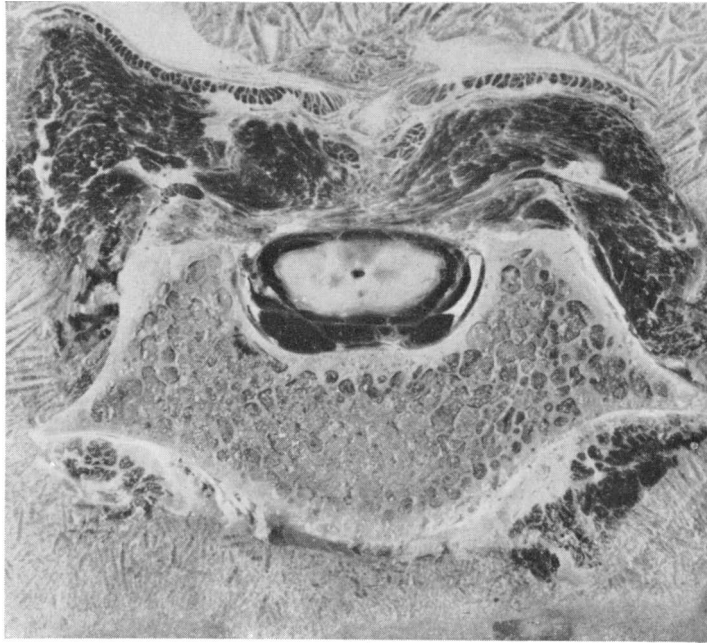


Fig. 4. Cross section of the vertebral column through L1, with the spinal cord in situ, in an experimental dog. Laminectomy on T12-L2 performed about 3 months before the animal was killed. The tissue, which bridges the defect in the roof of the canal, appears to be attached mainly to the cut surfaces of the arch. Severe dorsoventral flattening of the spinal cord. (After Funkquist and Schantz 1962).

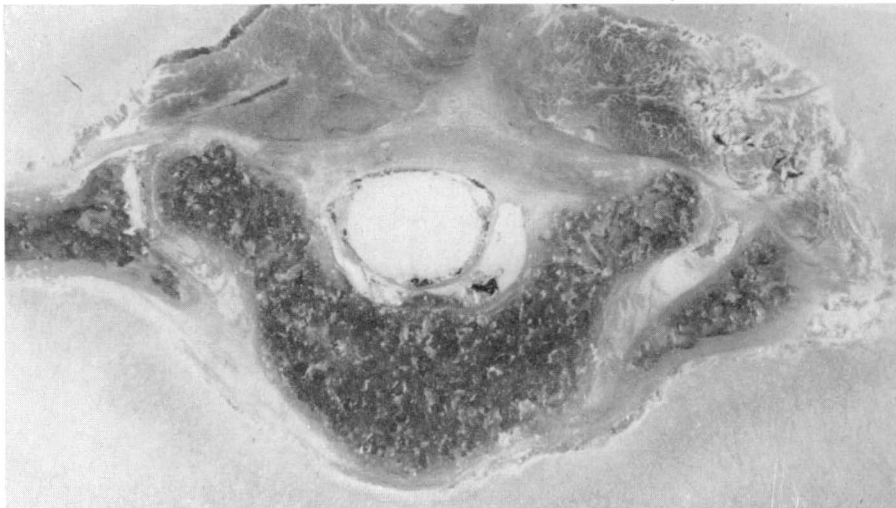


Fig. 5. Cross section of vertebral column through T10, with spinal cord in situ, in an experimental dog. Laminectomy on T9-T12 performed about 3 months before the animal was killed. The tissue, which bridges the defect in the roof of the spinal canal, appears to be attached both to the cut surfaces of the vertebral arch and to the transverse processes and the ribs. No appreciable change in the cross-section of the spinal cord. (After *Funkquist and Schantz* 1962).

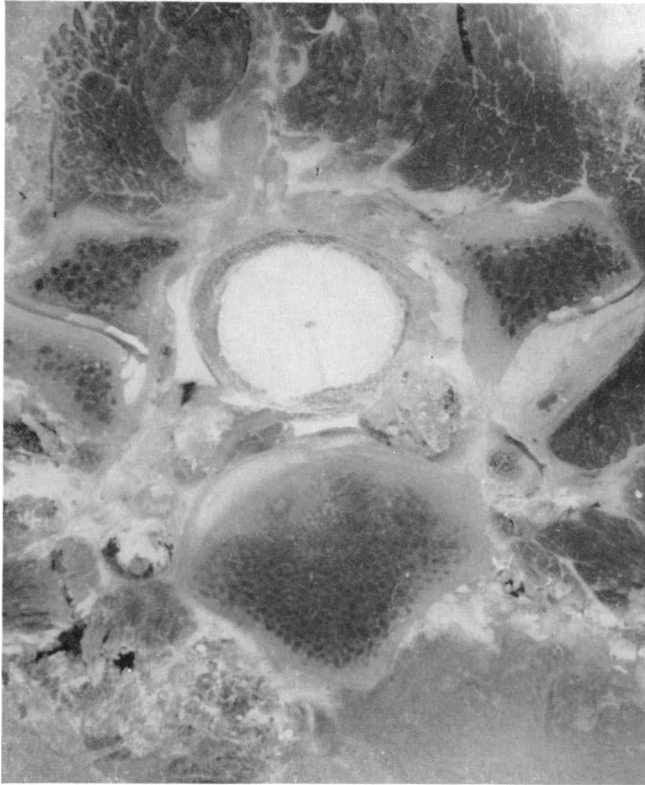


Fig. 6. Cross section of vertebral column, with the spinal cord in situ in the vicinity of disk C5/C6, from an experimental dog. Laminectomy on C5-C6 was performed 7 months before the animal was killed. The tissue which bridges the defect in the roof of the spinal canal appears to be attached to the cut surfaces of the vertebral arch and to the articular processes. No appreciable change in the shape of the spinal cord cross-section.

SUMMARY

On 10 dogs with herniated cervical disk the author has performed decompressive laminectomy over the area of the spinal-cord compression. In the majority of these cases the ruptures had caused symptoms of severe motor loss. No attempt was made to remove the protruded disk substance. Laminectomy, of a corresponding extension, was performed on 2 healthy experimental dogs. Out of the animals operated on for herniated cervical disks, 2 died between 1 and 3 days after operation. The remaining dogs recovered completely with regard to their motor functions. Differential diagnosis in relation to ascending paralysis, the therapeutic value of the operation, and the risk of postoperative complications are discussed on the basis of clinical observations and pathologic-anatomical findings.

ZUSAMMENFASSUNG

Dekomprimierende Laminektomie bei zerwikaler Bandscheibenhernie beim Hund.

Der Verf. hat bei 10 Hunden mit zerwikaler Bandscheibenhernie, die in den meisten Fällen schwere motorische Störungen hervorgerufen hatte, eine dekomprimierende Laminektomie über den affizierten Teil des Rückenmarks ausgeführt. Versuche zur Beseitigung der Diskusmassen wurden nicht gemacht. Laminektomie von entsprechender Ausdehnung wurde bei zwei gesunden Versuchshunden ausgeführt. Von den operierten Tieren mit zerwikaler Bandscheibenhernie sind zwei innerhalb den 1—3 Tagen nach der Operation gestorben. Die anderen haben eine ganz normale motorische Funktion wiederbekommen. Die Differentialdiagnose gegen ascendierende progressive Paralyse ebensowie der therapeutischer Wert der Operation und das Risiko für postoperative Komplikationen wird auf Basis klinischer und pathologisch-anatomischer Beobachtungen diskutiert.

SAMMANFATTNING

Dekomprimerande laminektomi vid cervikalt diskbråck på hund.

På sammanlagt 10 hundar med cervikalt diskbråck, som i flertalet fall orsakat grava motoriska bortfallssymtom, har förf. utfört en dekomprimerande laminektomi över området för ryggmärgskompressionen. Försök till avlägsnande av diskbråcket har ej utförts. Laminektomi av motsvarande utbredning har utförts på 2 friska försökshundar. Av de opererade djuren med cervikalt diskbråck har 2 dött inom 1—3 dygn efter operationen. De övriga djuren ha med avseende på rörelseförmågan tillfrisknat fullständigt. Differentialdiagnostiken gentemot ascenderande paralyse samt operationens terapeutiska värde och risken för postoperativa komplikationer diskuteras på grundval av kliniska iakttagelser och patolog-anatomiska fynd.

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