Clinical Report

Occipital Dysplasia in Pomeranian Dog

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Abstract

Case Description- Three female Pomeranian dogs with mean age about 1-year-old and history of
seizure and sudden shock were referred to Small Animal Hospital of University of Tehran.
Clinical Finding- Occipital Dysplasia was diagnosed by radiographic findings in rostroventral-
caudoventral oblique view in all cases.
Treatment and Outcome- These dogs recovered by 14 days administration of Glucocorticoid anti-
inflammatory drug and Vit B₁ (300 mg/BW).
Clinical Relevance- Diagnosis and treatment of the abnormality in this paper can show a good
direction toward same problems, that clinicians may encounter them.
Key Words: Occipital Dysplasia, Pomeranian, Foramen Magnum

Case Description

Three female Pomeranian dogs with mean age about 1-
year-old and mean body weight about 1.800 kg
unconscious and hypothermic with seizure, tetra paresis,
arrhythmia, dyspnea, bruises tongue, in the hypovolemic
shock situation and paralysis of neck with the history of
sudden movement were referred to Small Animal Hospital
of University of Tehran. They had the history of the neck
paralysis and nervous tie eventually that had been treated,
spontaneously.

After referring to the hospital, clinical and laboratory
examination were performed; chest and abdomen radiography were taken in lateral and VD view;
rostrodorsal- caudoventral oblique projection of the skull
was also taken by placing the dog in dorsal recumbency
with the neck flexed so that the nose was angled toward
the sternum. The central x-ray beam was directed between
the eyes and exits through the foramen magnum. The
beam was angled 25 to 40 degrees from the vertical axis.

Treatment, Outcome and Discussion

In the laboratory examination, all factors were within
normal limits. No abnormal Rontgen signs were seen in
chest and abdominal radiographs. The skull radiography
showed that the foramen magnum were expanded and
became like “key-hole” notch which is a diagnostic
feature for occipital dysplasia in all 3 cases (Fig.1).

Figure1. Rostrodorsal-caudoventral oblique radiograph of
the skull; arrows indicate the dorsally extended of the
foramen magnum (key hole notch).

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developmental defect in the occipital bone.4 compression of the cervical spine. This may lead to cerebellum is forced caudally generating pulsatile addition to compressing the medulla, the herniated consists of an elongation in the caudal and ventral part of Occipital dysplasia, a rare congenital malformation syringomyelia of the cervical spinal cord. 1 The clinical occurrence in all cases.

Chiari-like malformation signs are associated with abnormal conformation of the foramen magnum and cerebellar vermis.1 Expansion of the foramen magnum, which is a ring-like hole in the occipital bone and serves as a passage way between the spine and the head, produces occipital dysplasia.2,3 It happens as a result of developmental defect in the occipital bone.4 Occipital dysplasia, a rare congenital malformation consists of an elongation in the caudal and ventral part of the cerebellum through the foramen magnum which in addition to compressing the medulla, the herniated cerebellum is forced caudally generating pulsatile compression of the cervical spine. This may lead to syringomyelia of the cervical spinal cord.4 The clinical signs include cervical myelopathy symptoms, ataxia, proprioception deficits, weakness, cervical pain, seizures and distinct changes in personality. Excessive scratching of the ear, neck or shoulders may be the major presenting complaint.1,3 This disorder is usually identified in miniature and toy breed dogs and may be present at birth or may develop within 4 years.2,3,5,7

Foramen magnum size and shape can be evaluated in the rostrocaudal-caudal oblique skull radiograph. The characteristics of the foramen magnum can be assessed by CT and MRI too.1,8 Watson (1989) examined the shape of the foramen magnum in 36 dogs and found a considerable variation in the shape of the foramen magnum even within the same breed, the more brachycephalic the skull, the more likely there was occipital dysplasia.9 In Brachycephalic dogs the overall shape and size of the caudal fossa of the foramen magnum are variable and may not show any neurologic signs.9,12 However in the present case, occipital dysplasia had caused to clinical signs. In contrast, occipital hypoplasia results in reduced volume of the caudal fossa, leading to overcrowding of the neural structures and the most common cause of syringomyelia in veterinary medicine is occipital hypoplasia which is inherited in the Cavalier king Charles spaniel.8,13 The coexistence of occipital dysplasia and occipital hypoplasia and syringomyelia and hydrocephalus in toy dogs was reported in some articles.3,14 Due to lack of MRI examination, hydrocephalus was not detectable in this case and we do not know about the existence of syringomyelia either.

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References
چکیده

گزارش دیسپلایژی اکسپریمنتال در سگ پومرانیان

محمدملا مادی نیامده، داریوش شیرازی، سیدابراهیم شیرانی، داریوش فرخزاد، نادر شایبانی، حسن آقازاده

بیوگرافی‌های بالینی، توصیف بیمار: سه فلاده سگ ماده، نازد پومرانیان با میانگین سنی 1 سال، با علائم بالینی تشنج و در حالات شوک به بیمارستان دامپزشکی دانشگاه تهران ارجاع داده شدند. درمان و نتیجه: این بیماران تحت درمان با گروه دارویی گلوکورتیکوئید و وینامین ب 1400/mg به مدت 14 روز قرار گرفتند و بهبودی کامل در این موارد حاصل شد.

کلید واژگان: دیسپلایژی اکسپریمنتال، بیماری، سرویس مکانیکی