



UPSTATE VETERINARY SPECIALTIES PLLC

152 Sparrowbush Road

Latham NY 12110

t: 518.783.3198

f: 518.783.3199

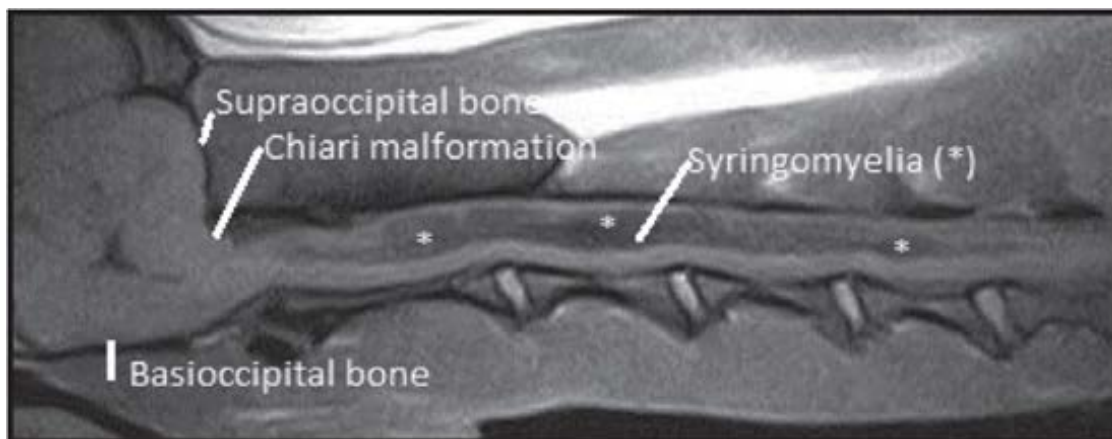
e: info@uvsonline.com

www.uvsonline.com

## CHIARI MALFORMATION

Chiari-like malformation (CM), also known as Caudal Occipital Malformation Syndrome (COMS), is characterized by a difference in growth between the size of the brain and the skull. The skull cavity is too short and the back of the brain (brain stem and cerebellum) gets pushed into the hole at the back of the skull and obstructs the flow of cerebrospinal fluid.

Chiari-like malformation is a common and debilitating condition in toy and small breeds such as Cavalier King Charles Spaniel, King Charles spaniel, Brussels Griffon, Affenpincher, Yorkshire Terrier, Maltese, Chihuahua, Pomeranian, Boston Terrier, Papillon, French Bulldog, and Pugs.



## SYMPTOMS

CM alters the flow of cerebrospinal fluid between the skull and spinal column resulting in a collection of fluid within the spinal cord descriptively known as syringomyelia (SM).

The most common clinical sign is intermittent pain and behavioral signs: spontaneous vocalization or posturing of pain when moving or when being lifted, reluctance to exercise, scratching at neck without making contact, rubbing face repeatedly or licking paws excessively, or overly sensitive to touch on one side of the neck, ear, shoulder and/or chest. Syringomyelia may also result in weakness and poor coordination or slow correction of abnormal limb position.



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Definitive diagnosis requires advanced imaging (MRI). In order for patients to lie completely still for their scans they will need general anesthesia.

### TREATMENT OPTIONS

There are several different medical approaches for treating CM. Drugs such as furosemide, cimetidine or omeprazole are used to help reduce cerebrospinal fluid pressure. Neuropathic pain medications such as gabapentin or pregabalin can be very helpful in reducing pain and painful behaviors such as phantom-scratching. Anti-inflammatories such as steroids or non-steroidal anti-inflammatories can also be used to treat pain and difficulty walking if present.

Surgery is also indicated for treatment but is generally reserved for cases which fail to respond to medical management. The most common surgery performed is cranial/cervical decompression (foramen magnum or sub-occipital decompression) which reinstates CSF flow by removing the bone at the back of the skull (supraoccipital bone) and part of the top of the first vertebrae. Surgery is successful in reducing pain and improving neurologic deficits in about 80% of cases but about 50% of patients can have a recurrence of signs within 2 years and the syringomyelia does not resolve.

### PROGNOSIS

Chiari-like malformation and syringomyelia can be a very painful disease and a minority of dogs are eventually euthanized as a result of uncontrolled pain. Life-long medication is typically warranted and the disease is progressive, meaning medications may be adjusted over time to control signs. Most dogs retain the ability to walk but some may develop significant weakness. However, majority of owners report their pets can enjoy a good quality of life.