

Key Points

1. In 2002, Dr. Batzdorf defined the slit-like syrinx
2. This clinical entity is very narrow, is not involved with disrupted CSF flow, and is generally asymptomatic
3. Batzdorf tracked 32 patients with slit-like syrinx cavities for more than 3 years
4. None of the syrinxes changed in size during that time
5. Neurological exams were generally normal or had minor findings
6. 25 of the patients either improved or stayed stable in regards to symptoms
7. Only one patient required surgery, for a herniated disc
8. Other underlying problems were found in 16 of the patients
9. Batzdorf believes that the slit-like syrinx is actually a remnant of the central canal which is still visible in some people

Definitions

asymptomatic - not having any symptoms

central canal - the tube like center of the spinal cord; the central canal is open in childhood and slowly closes as people age

cerebellar tonsils - portion of the cerebellum located at the bottom, so named because of their shape

cerebrospinal fluid (CSF) - clear liquid in the brain and spinal cord, acts as a shock absorber

dura - tough, outer covering of the brain and spinal cord

duraplasty - surgical technique where the dura is opened and expanded by sewing a patch into it

paresthesia - abnormal sensation, such as tingling

radicular pain - pain in the

Looking Back: When Is A Syrinx Not A Syrinx?

When is a syrinx not a syrinx? Although it sounds like the set-up line to a bad joke, for some people it is a question of critical importance. While the increased use of MRI's has certainly revolutionized the diagnosis of Chiari, for a number of people, it has also led to a finding which can be difficult to interpret. The reality is that if you put enough people in an MRI machine, you will find that some of them have syrinxes - or something like a syrinx - even though they don't necessarily have any related symptoms.

In September, 2002, Dr. Ulrich Batzdorf - a somewhat legendary neurosurgeon in the Chiari world - along with his colleague Dr. Langston Holly, examined this phenomenon in a paper published in the Journal of Neurosurgery. In the paper, they proposed that there are a set of people which have what they call slitlike syrinx cavities. They define the slitlike syrinx cavity as being narrow in width, not accompanied by factors that disrupt CSF flow, like Chiari, and generally asymptomatic in nature.

To examine this phenomenon, the team retrospectively looked at the medical and imaging records of 32 patients, with slitlike syrinxes, who they had seen between 1992 - 2000. The group was comprised of 18 men and 14 women with an average age of 40. Thirteen of the group underwent an MRI because of spinal pain (see Table 1), while others had an MRI because of abnormal sensations, numbness, and radicular pain.

Table 1
Presenting Symptoms Which Prompted MRI

Symptom	Number of Patients
Spinal pain	13
Radicular pain	7
Paresthesia	6
Numbness	5
Muscle spasm	1

Obviously, the MRI's revealed a syrinx like cavity in each person. On average, the syrinxes were less than 2mm wide, and in no case was the spinal cord enlarged due to the syrinx. Sixteen of the patients had a cavity in the cervical region, 12 in the thoracic, and 4 in both. Nine of the group actually had multiple cavities.

Neurological exams were completely normal for 12 patients, while 20 had minor sensation or motor related findings. There were no indications of many of the signs that are normally present in syringomyelia.

The patients were tracked for an average of 38 months and were evaluated with follow-up MRI's and neurological exams. During that time, 31 of the 32 were treated non-surgically, primarily with medicine and physical therapy. One person underwent surgery for a herniated disc. Overall, 6 people improved, 19 remained unchanged, and 7 got worse. A different underlying problem - such as a peripheral nerve problem - was found to be the cause of symptoms in 16 people. The authors point out that nerve conduction studies were very useful in identifying the true underlying problem in these cases.

Follow-up MRI's showed that not a single cavity changed in size during the 3 years. Similarly, follow-up neurological exams were uneventful. (see Table 2).

Table 2
Condition At Long-Term Follow-Up

Status	Number of Patients
Improved	6
Deteriorated	7
No Change	19

Batzdorf and Holly believe that the slitlike syrinx cavity is not actually a syrinx, but is a remnant of the central canal which is visible on MRI in some people. The central canal is the very center of the spinal cord. When we are children, it is like an open tube, but as we age, it collapses and becomes closed off. Early theories on syrinx formation held that CSF flow was blocked by a Chiari and flowed back into the central canal from the brain. However, this has since been shown not to be true since the central canal is closed in most adults.

extremities which is caused by a problem at the nerve root

retrospective - type of study which examines events that have already occurred, usually using charts and medical records

syringomyelia (SM) - neurological condition where a fluid filled cyst forms in the spinal cord

syrinx - fluid filled cyst in the spinal cord

Source

Holly LT, Batzdorf U.
[Slitlike syrinx cavities: a persistent central canal.](#) J Neurosurg Spine. 2002 Sep;97(2):161-5.

The researchers believe that in some people, the canal doesn't collapse completely, and thus can look like a thin syrinx on an MRI. In fact, a study by Petit-Lacour of 794 MRI's, found that 1.5% of the images showed a visible central canal, with cavities ranging in diameter from 2mm - 4mm.

So when is a syrinx not a syrinx? For some, when it is found incidental to another problem and really just represents the natural structure of their spinal cord.

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