


Chiari I Malformation: Is It the Result of an instability, and Should We Perform a Fusion Surgery?



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The paper by Deora et al.¹ is a good review of the current knowledge about treatment options for Chiari I malformation. We are not too far from the theories trying to explain the reasons of Chiari I malformation and syringomyelia. However, we realized that the obstruction of the cerebrospinal fluid pathways was the main reason of the symptoms created by these disorders. Additional basilar invagination, and atlantoaxial dislocation were making the management more complex. We used to do combined transoral decompression and posterior fixation which were full of many tricks and high complication rates.² We then learned a revolutionary surgical technique presented by Goel³ that was simplifying the management of basilar invagination by a posterior only reduction and fixation of C1 and C2 joint. This surgical technique improved the outcomes, had lower complication rates, and the need of transoral surgeries have significantly decreased.

The concept of central atlantoaxial instability has recently been introduced by Goel⁴ to answer the etiology of Chiari I malformation. If that concept is true, the immobilization by C1 and C2 fixation should be the surgical technique for Chiari I.

That concept was well discussed by Goel⁵ and Deora et al.¹ in this issue of the *Neurospine* by defending contradictory views. I congratulate the editorial team for creating such a nice discussion area.

The question arises if we should perform a stabilization surgery in simple Chiari I malformations. The manuscript of Goel⁵ urges that it is the best solution for Chiari I. However, literature is full with papers evidencing that a simple foramen magnum decompression is successful in more than 70% of the cases. There is no literature yet comparing a decompressive surgery with fixation surgery.

Even if it is an unstable condition, the necessity of doing a stabilization surgery is not obvious. Deora et al.¹ have done a nice analogy with lumbar spinal stenosis. Lumbar spinal stenosis may also be considered as a result of instability of a motion segment. The degeneration process starts from the intervertebral disc, then facets degenerate and an unstable condition occurs. Disc bulging, ligament hypertrophy and osteophytes are secondary to that unstable condition. Should we always consider a fusion surgery in lumbar spinal stenosis? Simply no. Even if there is degenerative listhesis, necessity of pedicle screw fixation or other fusion techniques is not hundred percent.

Central atlantoaxial instability may be the reason of Chiari malformation. However, we need biomechanical and clinical studies to investigate this theory. We also need high class clinical studies comparing the outcomes of simple decompressive surgeries and fixation surgeries.

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Title: Head of a Woman

Artist: Pablo Picasso

Year: 1960

Picasso first met Jacqueline Roque (1927–1986) in Vallauris in the summer of 1952. They were married in 1961. He recorded her distinctive features—high cheekbones, enormous eyes, and dark, straight hair—in hundreds of works in a variety of styles between 1954 and 1972.

Head of a Woman appears to be the culmination of a series of ten wash drawings made on November 12, 1960. They in turn derive from several paintings from 1949 of Picasso's former mistress, Françoise Gilot. In recapitulating these earlier works, Picasso essentially transmuted images of Françoise into this 1960 portrait of Jacqueline.

More information: <https://www.metmuseum.org/toah/works-of-art/1990.192/>

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