



# Type 1.5 Split Cord Malformations : Bridging the Gap

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To the Editor,

Type 1.5 split cord malformation (SCM) comprises of a unique variety of SCM, which incorporates features of both the classical SCM types described primarily by Dias and Pang<sup>2</sup>. Sun et al.<sup>9</sup>, recently added two cases of type 1.5 SCM with dorsal and ventral bony spurs representing types 1.5 A and 1.5 B respectively, which we had proposed for the first time<sup>6</sup>. There have been 15 cases reported in the literature on this entity till date<sup>5,6,9</sup>. We proposed the diagnostic criteria to classify this rare entity previously, in a reply to the letter by Sarica et al.<sup>7</sup> challenging our classification scheme<sup>5</sup>. Mahapatra and Gupta<sup>4</sup> reported the largest single centre experience of classical SCMs involving 254 patients from our institution, however no cases of type 1.5 SCM was noted. Five of the total 15 cases reported in the literature at different time points belong to our institution, constituting one third of the total reported cases<sup>1,3,6,8,10</sup>.

The subtypes; type 1.5 A and B, were included owing to the difficulty encountered during the removal of the ventral bony spur seen in our previous case. We used bone Cavitron Ultrasonic Aspirator, for removing the spur safely without injuring the hemicords, as working in the narrow and deep corridor between both the hemi cords was extremely challenging. Therefore, type 1.5 B remains to be a surgical challenge compared to type 1.5 A variety, which is relatively easier to be ex-

cised<sup>5,6</sup>. Regarding the pathogenesis, we had already discussed in detail in our previous article, various plausible embryological possibilities. This included the uneven distribution and regression, as well as the concentration of the meninx primitive cells dorsally as postulated by Chandra et al.<sup>1</sup>. We would like to add the report by Sarica et al.<sup>7</sup>, which need to be acknowledged and included in the list, summing up the tally of SCM type 1.5 to 15 cases.

We are glad and appreciate Sun et al, for acknowledging our proposed classification of type 1.5 SCMs. This would promote uniform nomenclature of SCMs in the neurosurgical community, thereby avoiding confusing terminologies like; intermediate, composite, mixed SCMs. Future reporting using this nomenclature would also promote further identification of these cases and augmenting the literature with more cases, thereby complementing our understanding.

## AUTHORS' DECLARATION

### Conflicts of interest

No potential conflict of interest relevant to this article was reported.

### Author contributions

Conceptualization : RD; Data curation : RD; Formal analy-

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## References

1. Chandra PS, Kamal R, Mahapatra AK : An unusual case of dorsally situated bony spur in a lumbar split cord malformation. **Pediatr Neurosurg** **31** : 49-52, 1999
2. Dias MS, Pang D : Split cord malformations. **Neurosurg Clin N Am** **6** : 339-358, 1995
3. Garg K, Mahapatra AK, Tandon V : A rare case of type 1 C split cord malformation with single dural sheath. **Asian J Neurosurg** **10** : 226-228, 2015
4. Mahapatra AK, Gupta DK : Split cord malformations: a clinical study of 254 patients and a proposal for a new clinical-imaging classification. **J Neurosurg** **103** : 531-536, 2005
5. Meena RK, Doddamani RS : In reply to the letter to the editor regarding "type 1.5 split cord malformations: an uncommon entity". **World Neurosurg** **139** : 642-644, 2020
6. Meena RK, Doddamani RS, Gurjar HK, Kumar A, Chandra PS : Type 1.5 split cord malformations: an uncommon entity. **World Neurosurg** **133** : 142-149, 2020
7. Sarica C, Canaz G, Canaz H : Letter to the editor regarding "type 1.5 split cord malformations: an uncommon entity". **World Neurosurg** **139** : 638-641, 2020
8. Singh PK, Khandelwal A, Singh A, Ailawadhi P, Gupta D, Mahapatra AK : Long-segment type 1 split cord malformation with two-level split cord malformation and a single dural sac at the lower split. **Pediatr Neurosurg** **47** : 227-229, 2011
9. Sun M, Tao B, Luo T, Gao G, Shang A : Type 1.5 split cord malformation : a new theory of pathogenesis. **J Korean Neurosurg Soc** **65** : 138-144, 2022
10. Vaishya S, Kumarjain P : Split cord malformation: three unusual cases of composite split cord malformation. **Childs Nerv Syst** **17** : 528-530, 2001