



# **Intracerebral Hemorrhage with Cerebral Venous Sinus Thrombosis in Tibetan Population**

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**Background: Tibetan people have high risk of intracerebral hemorrhage (ICH) as cerebral venous sinus thrombosis (CVST) can be found in some Tibetan ICH patients. However, the risk factors of CVST in Tibetans are unclear. Management and clinical outcome of ICH with CVST in Tibetan patients is still poorly understood. The main objective of this study is to describe and discuss the risk factors, clinical characteristics, treatment and clinical outcome in Tibetan patients of ICH with CVST.**

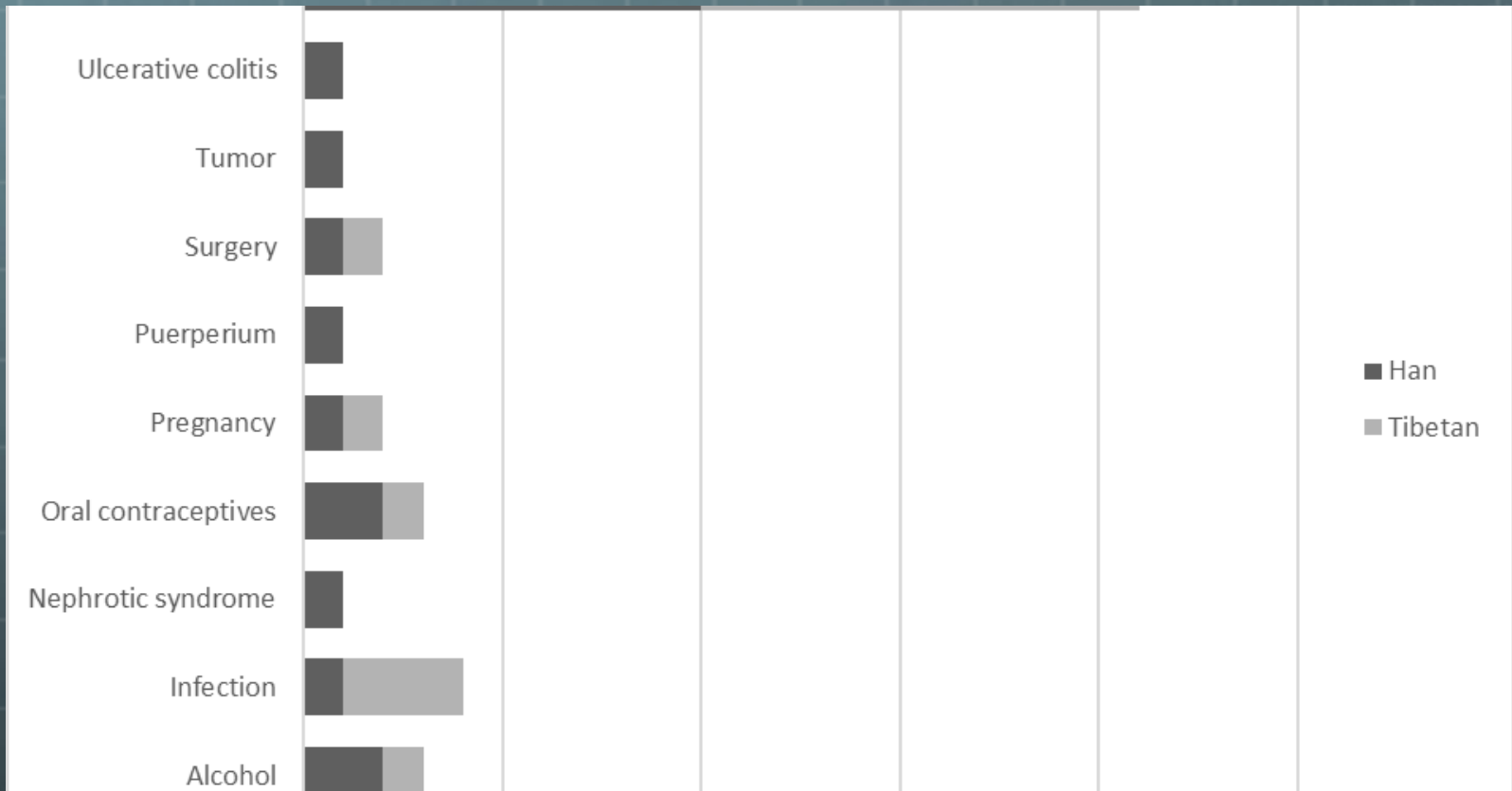


**Methods:** The retrospective study was performed in the department of neurosurgery in West China Hospital, Sichuan University from January 2005 to January 2015. All radiologically diagnosed cases of ICH with CVST were included.

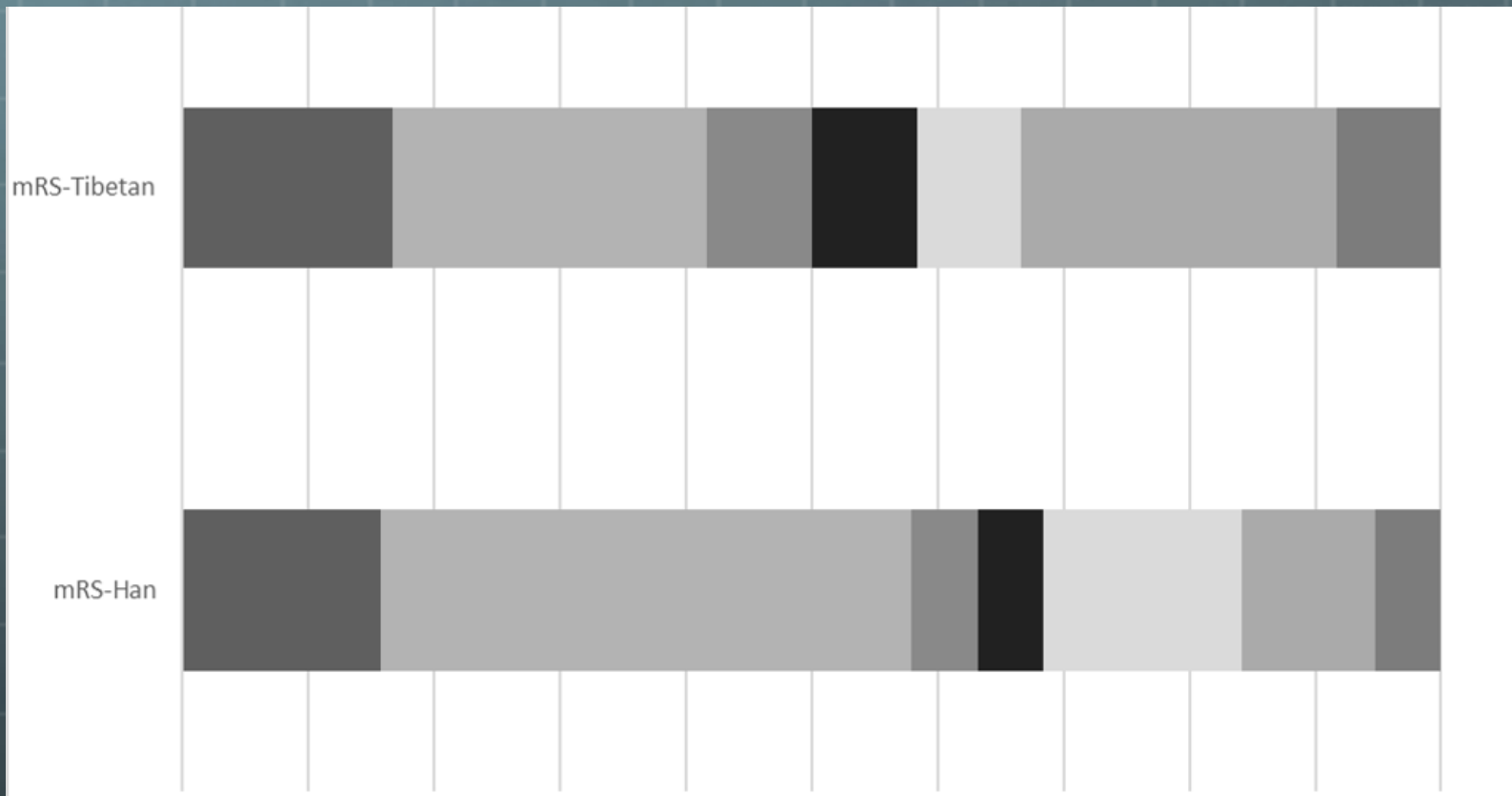


**Results:** From January 2005 to January 2015, there were 8579 ICH patients in total in our department, of which 821 patients are from Tibetan population. A total of 39 patients of ICH with CVST were enrolled, including 18 Tibetan patients. ICH with CVST accounted for 2.19% in Tibetan ICH patients. Red blood cell (RBC) count ( $P=0.029$ ) and hemoglobin (HGB) ( $P<0.001$ ) were significantly higher in Tibetan patients. One week after decompressive craniectomy, the mean Glasgow Coma Scale (GCS) score was  $5.40 \pm 2.27$  in all patients and  $4.75 \pm 2.06$  in Tibetan patients. The mean 6-month modified Rankin Scale (mRS) score was  $2.05 \pm 1.96$  in Han population and  $2.46 \pm 2.30$  in Tibetan population ( $P=0.592$ ).

# Potential risk factors in Han and Tibetan patients of ICH with CVST

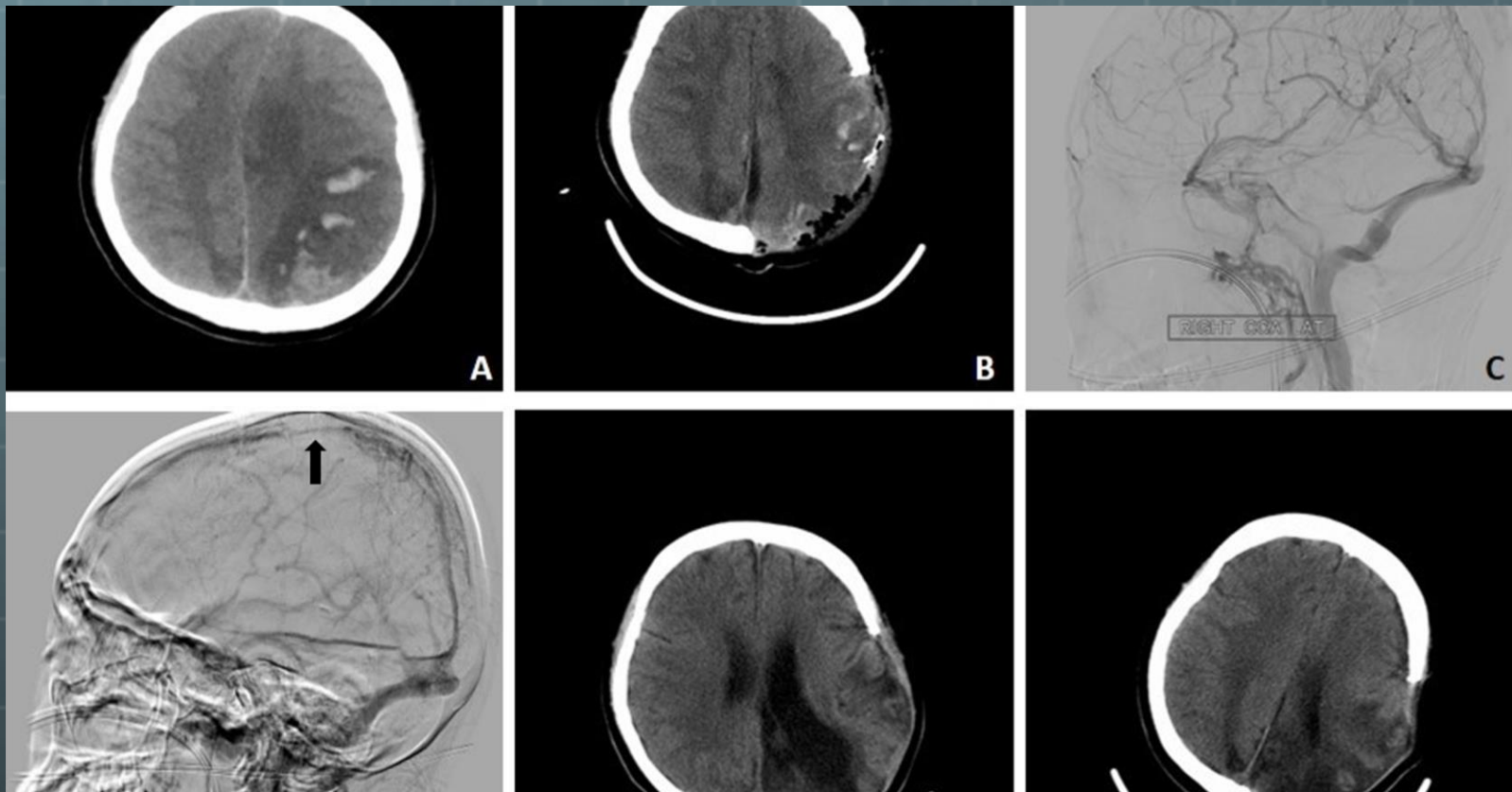


# 6- month mRS score in Han and Tibetan patients of ICH with CVST

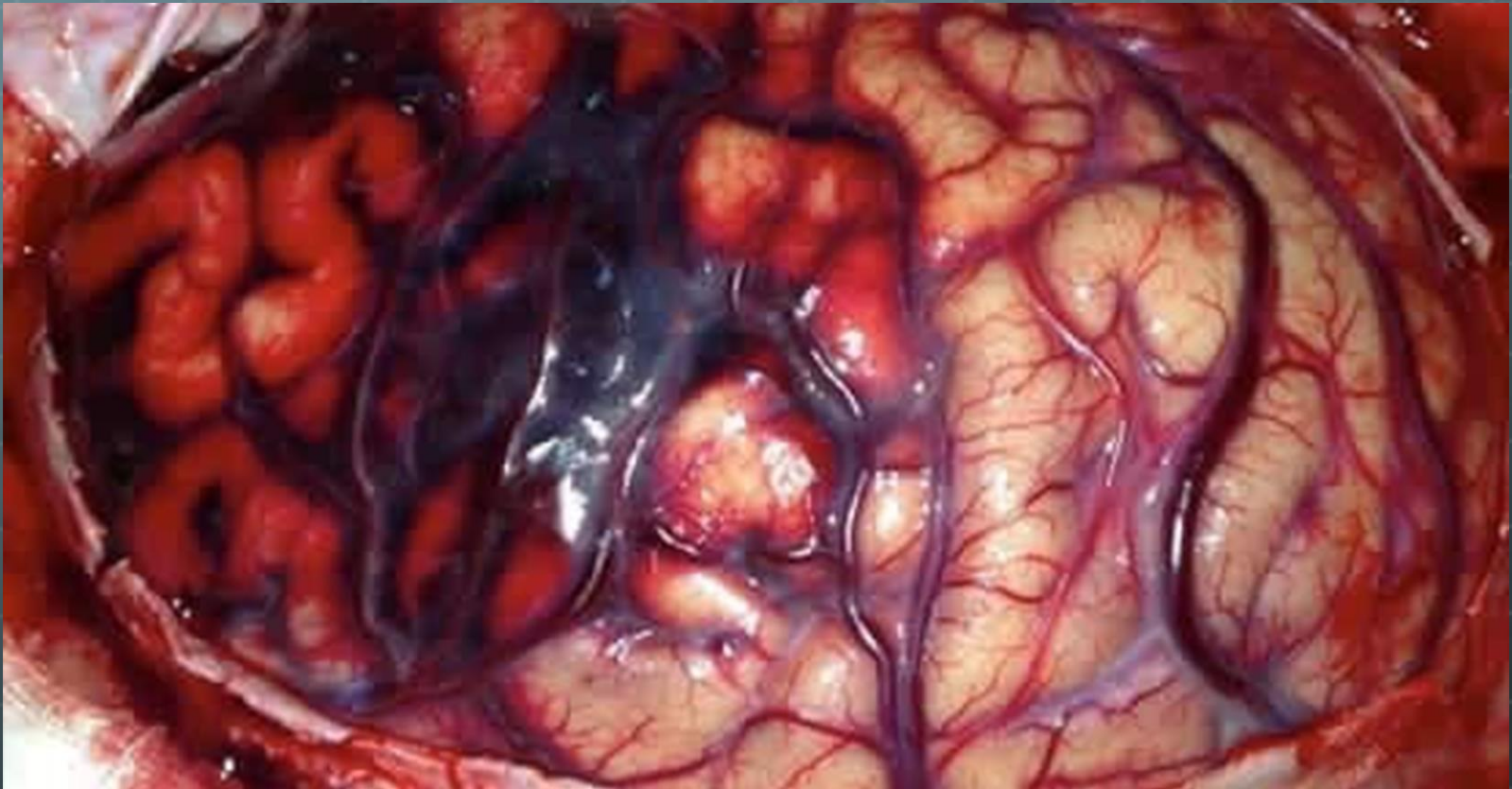




# Diffused intracerebral hemorrhage on CT scan



# Surgical photograph of ICH with CVST







**Conclusions: ICH with CVST is more frequent in Tibetan population. The levels of RBC and HGB are significantly higher in Tibetan patients. Although the postoperative GCS is lower, the decompressive craniectomy can improve GCS in Tibetan patients. The 6-month mRS score tends to be higher in Tibetan patients. It is still uncertain if Tibetan patients of ICH with CVST have poorer clinical outcome.**