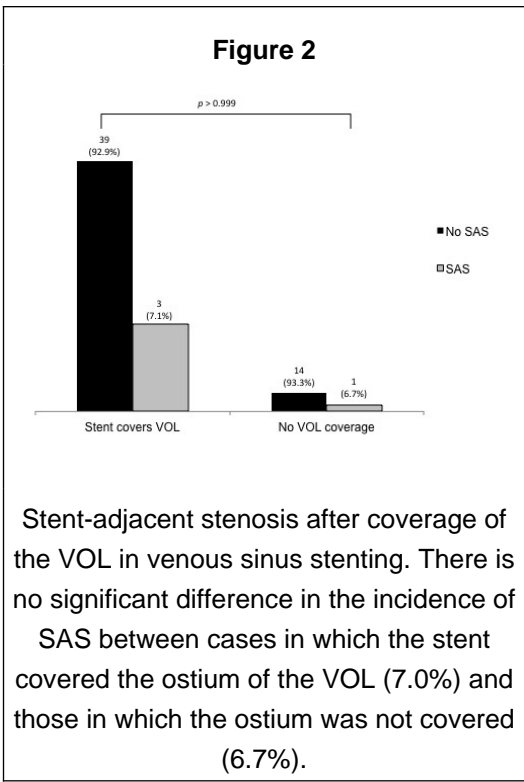
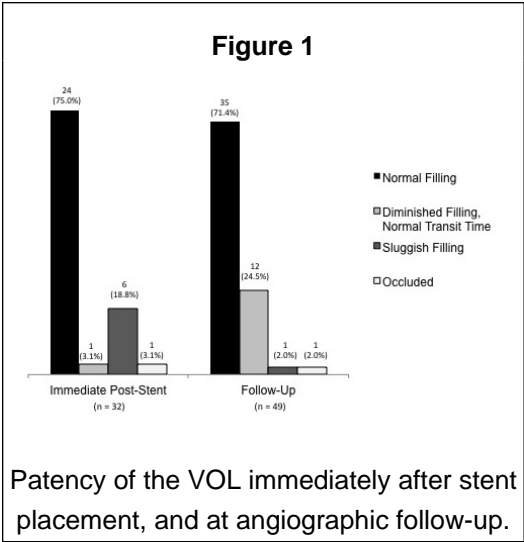


Introduction

Venous sinus stenting (VSS) is an emerging treatment option for patients with idiopathic intracranial hypertension (IIH) and evidence of intracranial venous stenosis. Stents placed across the transverse and sigmoid sinuses often cover the vein of Labbé (VOL), a major anastomotic draining vein of the cerebral hemisphere, as it enters the sigmoid sinus. VOL patency after VSS and its clinical implications are poorly understood.

Methods

We performed a retrospective analysis of a prospectively collected database of patients undergoing VSS. Pre-VSS angiography was compared to immediate post-VSS and follow-up angiography to assess changes in the patency of the VOL. The rate of stent-adjacent stenosis (SAS) was compared between patients with and without stent coverage of the VOL.

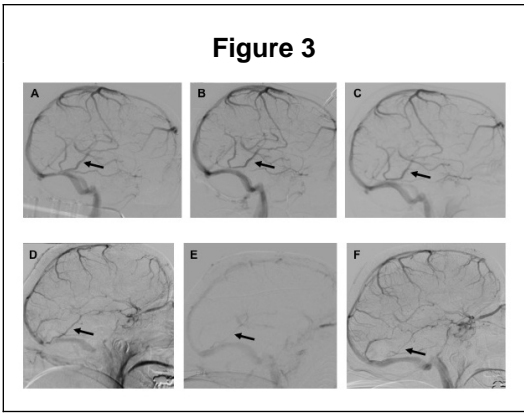


Results

The study cohort was comprised of 56 patients who underwent VSS. The stent covered the VOL in 92.9% of cases. In the 32 cases with evaluable angiograms in which the VOL was covered immediately after stent placement, the VOL filled normally in 75.0%, exhibited diminished caliber with normal transit time in 3.1%, filled sluggishly in 18.8%, and was occluded in 3.1%. Follow-up angiography was obtained in 49 patients at a mean of 6.7 months post-VSS. Of these, normal filling was seen in 71.4%, diminished caliber with normal transit time in 24.5%, and sluggish filling and occlusion in 2%, respectively. Neither stent coverage of the VOL nor patency of the VOL immediately after VSS or at follow-

Conclusions

In the majority of VSS cases involving the transverse and sigmoid sinuses, the VOL remains widely patent and drains normally. Complete occlusion of the VOL rarely occurs after VSS. Therefore, stent coverage of the VOL should not deter the therapeutic use of VSS.



A 28 year-old female was found to have IIH, with elevated mean venous pressure and a focal stenosis at the right TSJ, with an associated pressure gradient of 45 mmHg. (A) Diagnostic angiography, lateral view of a right ICA injection in the venous phase, shows the VOL (arrow). (B) Post-stenting angiography, lateral view of a right ICA injection in the venous phase, performed immediately after placement of a stent spanning the right TSJ, shows normal filling of the VOL with normal transit time.

(C) Follow-up angiography performed six months after stent placement, lateral view of a right ICA injection in the venous phase, shows normal filling of the VOL with normal transit time. A 46 year-old female was found to have IIH, with elevated mean venous pressure and a focal stenosis in the dominant distal right TS, with an associated pressure gradient of 16 mmHg. (D) Diagnostic angiography, lateral view of a right ICA injection in the venous phase, shows the VOL. (E) Post-stenting angiography, lateral view of a right ICA injection in the late venous phase, performed immediately after placement of a stent spanning the right TSJ, shows diminished caliber of the VOL, with sluggish flow and delayed transit time. (F) Follow-up angiography performed six months after stent placement, lateral view of a right ICA injection in the venous phase, shows improved filling of the VOL, with persistently diminished caliber of the vessel.