STENTING OF INTRACRANIAL STENOSIS THROUGH AN ANGIOPLASTY BALLOON CATHETER – A CASE SERIES

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Introduction Microcatheter exchange increases the risks of intracranial angioplasty and stenting using the Wingspan/Gateway system and may have contributed to the high procedural risks in the SAMMPRIS trial. We present a case series of direct stent deployment through the balloon catheter, simplifying the technique of intracranial angioplasty and stenting using self-expanding stents.

Materials and Methods We retrospectively reviewed all patients who underwent stenting for intracranial stenosis with deployment of the Neuroform Atlas stent through the Gateway balloon in our hospital system since this technique was first utilized in October 2020. Procedural success, complication rate, short term clinical and imaging follow-up were assessed.

Results Ten Neuroform Atlas stents were deployed through either the Gateway or Emerge balloon catheter in eight patients. The median age was 59 (range 30–75) and 50% were female. All patients had symptomatic severe intracranial stenosis with mean stenosis of 83% (range 70% to 90%). Six patients had recurrent strokes and had failed medical therapy, while two patients presented with acute stroke symptoms and were treated emergently. Mean post-stenting stenosis was 32% (range 0% to 50%). Two procedures were performed under conscious sedation and the rest under general anesthesia. Four were treated emergently. Mean post-stenting stenosis was 32% (range 0% to 50%). Two procedures were performed under conscious sedation and the rest under general anesthesia. Four patients were treated emergently. Mean post-stenting stenosis was 32% (range 0% to 50%). Two procedures were performed under conscious sedation and the rest under general anesthesia. Four patients were treated emergently. Mean post-stenting stenosis was 32% (range 0% to 50%). Two procedures were performed under conscious sedation and the rest under general anesthesia.

Conclusion Deploying self-expanding stents through an angioplasty balloon catheter is feasible, safe, and can greatly simplify the procedure. The Neuroform Atlas stent is strong enough to prevent immediate recoil of intracranial stenosis after angioplasty.

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