E-Poster

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Botulinum Toxin Treatment in the Management of Post stroke Patients Undergoing Functional Surgery: A Retrospective Study

Topic: Complications/Sequelae (ie Spasticity, Immobilization and Frailty)

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BACKGROUND

Post-stroke spasticity is a common neurological complication, affecting over 38% of patients within the first year after a cerebrovascular event. It significantly impairs motor function, limiting independence in daily activities and social participation. Spasticity management requires long-term follow-up with clinical and functional reassessments. The initial approach is conservative, focusing on physiotherapy and botulinum toxin type A (BnT-A) injections. This study aims to evaluate the role of BnT-A treatment within the rehabilitation pathway leading to functional surgery.

METHODS

A retrospective longitudinal study was conducted at the Villa Beretta Rehabilitation Center (Costa Masnaga, LC), part of the Valduce Hospital in Como. The study covered a 10-year period (2013–2023). Inclusion criteria were: age ≥ 18 years, post-stroke spasticity, at least two BnT-A injections before functional surgery, undergoing a functional surgical procedure, a minimum one-year postoperative follow-up, and the ability to provide informed consent.

Seventy patients treated with BnT-A and undergoing functional surgery were included. Among them, 64 (91.4%) underwent lower limb (LL) surgery, while six (8.6%) underwent upper limb (UL) surgery.

RESULTS

The first BnT-A treatment was administered on average 1.4 ± 2.1 years post-stroke in patients who later underwent UL surgery, and 1.8 ± 1.7 years in those undergoing LL surgery. Surgery occurred at an average of 7.2 ± 3 years post-stroke for UL and 4 ± 2.5 years for LL patients.

Among LL surgery patients, 54 (84%) received at least one BnT-A treatment preoperatively. Specifically, 57% were treated in the LL before surgery (mean dose: 317 U), decreasing to 36% postoperatively (235 U). Conversely, 43% received BnT-A in the UL preoperatively (376 U), increasing to 60% postoperatively (398 U).

Regarding anatomical distribution in the LL, 57% received distal preoperative treatment (274 U), decreasing to 40% postoperatively (177 U), while 18% received proximal preoperative treatment (92 U), increasing to 34% postoperatively (133 U).

These findings highlight the evolving role of BnT-A in post-stroke spasticity management, particularly in relation to functional surgery.

CONCLUSION

The study confirms BnT-A's role in pre- and postoperative spasticity management. Most patients received preoperative BnT-A, supporting a conservative first-line approach. Postoperatively, treatment was adjusted, with reduced distal and increased proximal lower limb dosages. Effective spasticity management requires personalized, long-term monitoring with periodic clinical reassessments.

Statement of Disclosures

None

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