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# Botulinum Toxin A for Post-Stroke Spasticity: Insights From the French National Hospital Discharge Database (2015-2023)

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

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## BACKGROUND

Botulinum neurotoxin type A (BoNT-A) has become a cornerstone therapy for focal spasticity, recognized for its effectiveness and tolerability. Prior analyses of real-world data from France (2014-2020) revealed underutilization of BoNT-A for post-stroke spasticity. By examining updated data, we aimed to assess progress and identify persisting gaps in care pathways, with a focus on access to and adherence with BoNT-A therapy.

## METHODS

This population-based, retrospective cohort study extracted data on adult and pediatric stroke survivors from the exhaustive French National Hospital Discharge Database (Programme de Médicalisation des Systèmes d'Information, PMSI). Two cohorts were analyzed: (1) patients who experienced a stroke between 2017 and 2019, survived beyond six months post-stroke, and were followed until 2023, for whom we assessed BoNT-A use and time from stroke onset to the first injection; and (2) total stroke hospitalizations in France between 2015 and 2023, for whom we evaluated overall BoNT-A treatment rate, stratified by age groups and hospital unit type.

## RESULTS

Among 287,370 stroke survivors evaluated between 2017 and 2019, 37,692 (13.1%) were coded with post-stroke spasticity, 8,056 (2.8%) received ≥ 1 BoNT-A injection between 2017 and 2023, and 4,360 (1.5%) received ≥ 3 injections. Median (interquartile range) time from stroke onset to the first BoNT-A injection was 258 (117-622) days. Between 2015 and 2023, 1,170,436 stroke-related hospitalizations were recorded in France. BoNT-A treatment rate was higher in patients staying in neurovascular units, increasing from 2.0% in 2015 to 2.6% in 2022. By contrast, in non-specialized units, treatment rate increased from 0.9% to 1.1% over the same period. In patients receiving neuro-rehabilitation care, treatment rate was higher, rising from 7.3% in 2015 to 9.6% in 2022. By comparison, in patients who did not receive rehabilitation care, it only increased from 0.3% to 0.4%, respectively. Among stroke survivors aged ≥ 20 years, BoNT-A treatment rates consistently increased across all age categories between 2015 and 2022.

## CONCLUSION

Botulinum neurotoxin type A therapy for post-stroke spasticity remains suboptimal and poorly adhered to, underscoring the need to improve access to and adherence with BoNT-A therapy in France.

**Statement of Disclosures**

Djamel Bensmail is a consultant for Ipsen, Merz, Allergan, and Medtronic. Anne Forestier and Jean-Yves Loze are Ipsen employees. Pierre Karam is a consultant for Ipsen.

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