Sensory Mapping in Patients Following Excision of a Morton’s Neuroma

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NO CONFLICT TO DISCLOSE

Sensory mapping in patients following excision of a Morton’s Neuroma
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Our disclosures are on the AAOS Website. We have no potential conflicts with this presentation.
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- Morton’s neuromata are a common cause of forefoot pain.

- Surgical excision of the neuroma is expected to result in loss of sensation.

- In the author’s experience however, post-operative sensation can be incongruent with the expected cutaneous innervation of the excised nerve.

- The purpose of this study was to carry out sensory mapping in post excision patients.
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METHODS

- Data was collated from the consecutive case series of a single surgeon from 2013-2015 resulting in a total of 19 respondents (23 excisions).

- All patients were a minimum of 7 months post-excision (average=23 months).
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METHODS

- Each toe was divided into 13 anatomical segments (total 65).
- Sensation was assessed using a 10g monofilament and results were recorded on a sensory map.
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SENSORY MAP

[Diagram showing sensory mapping of the feet, including labels for right and left foot, hallux, 2nd to 5th toes, and sensory areas marked with crosses and arrows.]
RESULTS

- 19 excisions were done from the 3rd intermetatarsal space (group A) and 4 from the 2nd intermetatarsal space (group B).

- Complete sensory loss varied across each of the 65 segments tested in group A: range (5.3% -47.4%).

- In the lesser toes (2, 3, 4 and 5), at least 10% of patients described decreased or absent sensation in ≥7/13 segments in each of all the lesser toes.
RESULTS

- Over 36.9% of patients reported decreased or absent sensation involving ≥7/13 segments in each of the 3rd and 4th toes.

- Intact, unaltered sensation varied across all 65 segments in Group A, range: (21.1% - 100%).

- Group B followed a similar pattern but had a much smaller cohort of patients.
CONCLUSION

- The results of the sensory mapping indicate an unexpected pattern of loss and preservation of sensation when considering the perceived knowledge of the cutaneous innervation of the forefoot.

- Further research is required to evaluate this intriguing pattern of innervation.

- A greater understanding would be useful in better informing our patients during the consent process.
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REFERENCES


