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Do Peripheral Nerve Sizes Correlate with Optic Nerve Sheath Diameter?

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Introduction

There is an arbitrary threshold of optic nerve sheath diameter (ONSD) used to identify increased intracranial pressure (ICP) in emergent settings.

Hypothesis

Peripheral nerve size varies significantly with ONSD in patients with normal ICP

Methods

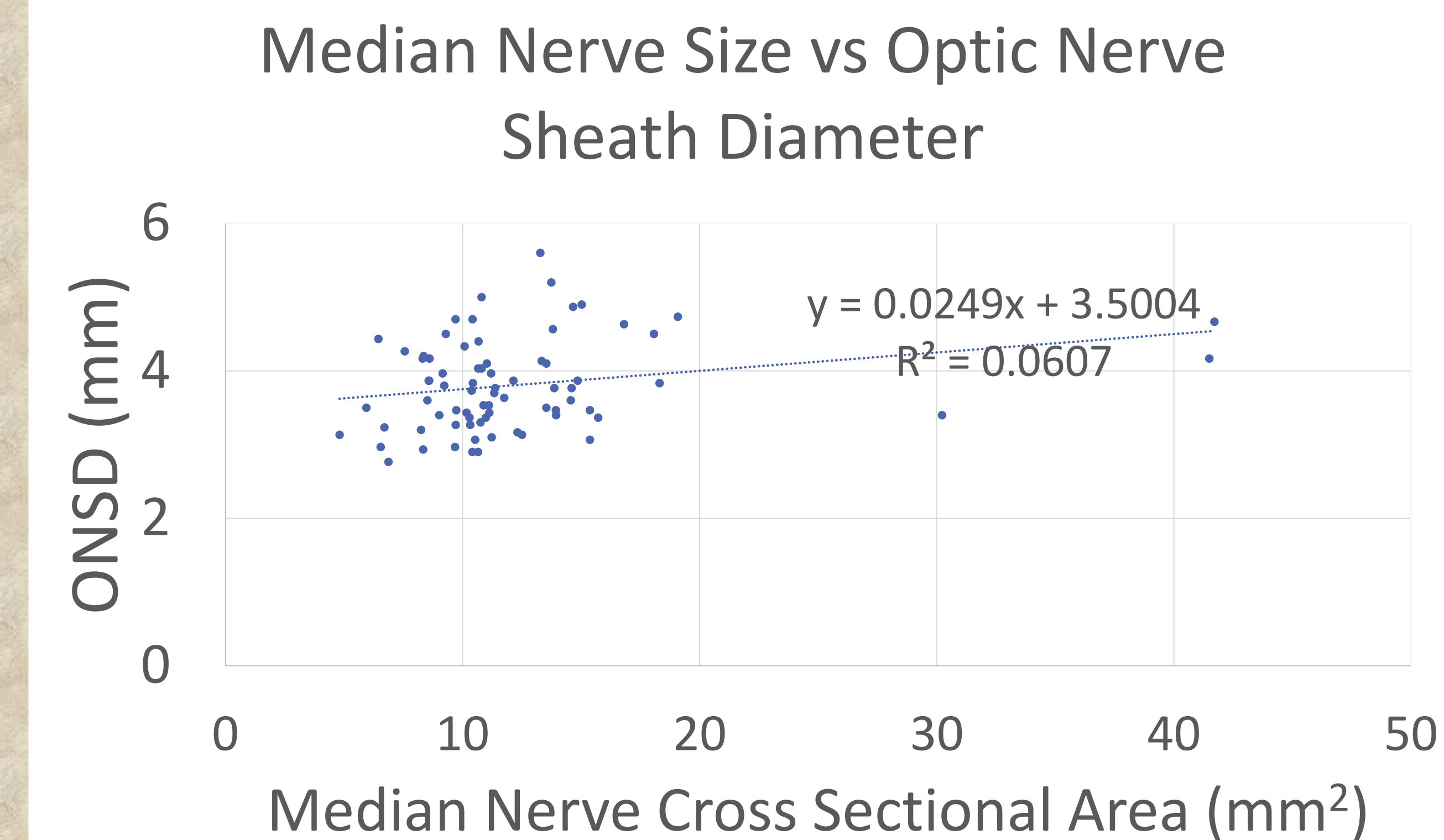
- 75 patients with no history or subjective evidence of increased ICP were scanned
- Estimated cross sectional area of median, ulnar and sciatic nerves and ONSD were collected
- Data were analyzed via simple linear regression

Main Finding: In a sample of patients with subjectively normal intracranial pressure, median nerve size varied significantly with optic nerve sheath diameter.



Results

The graph below shows the correlation between median nerve size (mm) and ONSD (mm²). p-val= 0.0330



Discussion

Ulnar and sciatic nerves were not good candidates due to difficulties with patient positioning.

Median nerve size CSA varied significantly with ONSD, while ulnar and sciatic nerve CSAs did not.

Clinical significance uncertain; less useful for patients with baseline ONSD <3.5mm.