Eagle’s Syndrome: A Risk Factor for Cervical Arterial Dissection – The New Evidence is Now a Masterclass Paper

**FREE FULL PDF of Paper available until January 2021**
**See Link at the End of this Commentary**

December 3, 2020

Andrea Westbrook PT, DPT, COMT, FAAOMPT
MAPS COMT and Fellowship Graduate
Dr. Westbrook authored the featured paper as partial fulfillment of the research component of the MAPS Orthopedic Manual Therapy Fellowship

Vincent Kabbaz PT, MMPT, COMT, FAAOMPT
Senior Faculty Advisor
MAPS Orthopedic Manual Therapy Fellowship

Chris Showalter PT, DPT, OCS, FAAOMPT
Program Director
MAPS Orthopedic Manual Therapy Fellowship

Research Commentary

This Research Commentary presents an exciting new Masterclass paper authored by members of a MAPS research group (Westbrook, Kabbaz and Showalter). We are honored that the highly respected journal Musculoskeletal Science and Practice has not only chosen to publish this paper, but has also upgraded this paper to the prestigious “Masterclass” category.

What is a Masterclass Paper?

Musculoskeletal Science and Practice 2020 defines a Masterclass paper as follows: “Masterclasses must show depth, rigor, originality, and high standards of presentation. The purpose of the Masterclass is to describe in detail clinical aspects of conservative musculoskeletal interventions. Masterclasses are showcase articles and authors are normally invited to write a masterclass paper because of their significant expertise in a relevant area.”
This paper explores the prevalence, presentation, clinical assessment, orthopedic manual therapy management, and potential implications of Eagle’s Syndrome (elongation of the styloid processes), particularly with regard to safety concerns in the performance of upper cervical interventions.

**Background**

Eagle’s syndrome was first identified by Dr. Watt Eagle in 1948 and includes a complex assortment of symptoms produced by provocation of the carotid space neurovascular structures by anomalies of the styloid process particularly with an elongated styloid of 30 mm or larger.

**As per Westbrook, et. al. (2020), Eagle’s syndrome can be challenging to diagnose, with a reported incidence of 30-36%, and potentially higher.**

The diagram below illustrates typical styloid process presentations (Figure A.) and elongated styloid (Figure B.) and associated anatomical relationship to vascular and neurological structures.

Note: The anatomical relationship between the elongated styloid process and the Internal and External Carotid Arteries (ICA & ECA)

---

Figure 1A. Illustration of normal length styloid process and associated vascular and neural structures. Figure 1B. Illustration of elongated styloid process traveling just proximal to the carotid bifurcation through the carotid arteries as seen in many patients with Eagle’s syndrome. (Illustrations A & B are printed with permission from ©Mount Sinai Health System, provided by senior illustrator Jill Gregory (Badhey et al., 2017). ICA = Internal carotid artery. ECA = External carotid artery. IJV = Internal jugular vein. CN X = Cranial nerve 10 = Vagus nerve.)
The paper describes how Eagle’s syndrome is shown to be associated with:

- Temporomandibular disorders (TMD)
- Neurological symptoms (commonly involving the cranial nerves 5, 7, 9, and 10),
- Autonomic symptoms
- Arterial disturbances including over 30 documented cases of carotid dissection!! Many of these with precipitating neck movements.

The featured paper provides evidence of the following…

- Styloid anomalies are risk factors for artery dissection with over 30 confirmed cases.
- Eagle’s syndrome presents with neural, vascular and autonomic features from styloid anomalies.
- PTs can detect styloid anomalies by a thorough Subjective Examination (S/E), Clinical Reasoning, gentle palpation, and imaging.

...And suggests that:

- PTs may be the first practitioner to assess for the presence of Eagle’s syndrome and thus can expedite further testing and referral as indicated.
- Safe PT practice in the presence of Eagle’s syndrome should AVOID:
  1) neck manipulation
  2) end range/sustained ROM, and
  3) massage around the carotid arteries.

- Given the reported incidence of at least 30-36% for Eagle’s syndrome, the authors recommend amendments to the IFOMPT (International Federation of Orthopaedic Manipulative Physical Therapists) framework for safety assessment of the cervical spine to include Eagle’s syndrome, including specific assessment for Eagle’s syndrome, to avoid potentially serious complications following upper cervical interventions.

We encourage you to read the details in the paper for yourself!

Click the link below to access the PDF of the FULL paper (this link expires January 2021)

https://authors.elsevier.com/a/1c5sK8nLVhgWfN

Cheers and Enjoy,
Chris R. Showalter
© Maitland Australian Physiotherapy Seminars
Not to be reproduced, copied or retransmitted in any manner without MAPS express written permission
Directing others to the MAPS website (www.ozpt.com) is permissible.