

A 50-year Bibliometric Inquiry of Charcot Neuroarthropathy

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Statement of Purpose and Literature Review

Charcot neuroarthropathy remains an important diagnosis with respect to early diagnostic recognition, health care resource utilization, and patient function, morbidity and mortality [1-4].

Although there is a clear association and clinical interest within the subspecialty of foot and ankle surgery, in fact it represents a multidisciplinary diagnosis.

The objective of this investigation was to perform a bibliometric inquiry into peer-reviewed publishing patterns related to Charcot neuroarthropathy.



Methodology

We performed a pubmed.gov search during 6/2019 with the search terms (“Charcot” or “diabetes” or “diabetic” or “neuropathic”) and (“neuropathy” or “neuroarthropathy” or “osteopathy” or “fracture”) with five year date range blocks of publication initiating 1/1/1969 and ending 12/31/2018 (i.e. the first date range block was 1/1/1969 to 12/31/1973). Returned article abstracts were then reviewed by study authors and judged as to whether or not the article was “relevant to a medical professional working with Charcot neuroarthropathy.” The term “relevant” is obviously rather broad, but this was the intention of the investigators. We made an attempt to be relatively open-minded with respect to article relevance, and to include as opposed to exclude potential studies. A basic definition of article relevance would be any article that had the possibility of being beneficial or improving patient care with respect to Charcot neuroarthropathy. Any disagreement with respect to article “relevance” was deferred to the discretion of the senior author. Case reports were not considered and excluded. Included articles were further categorized into the geographic area of publication, and whether or not the article presented a surgical focus.

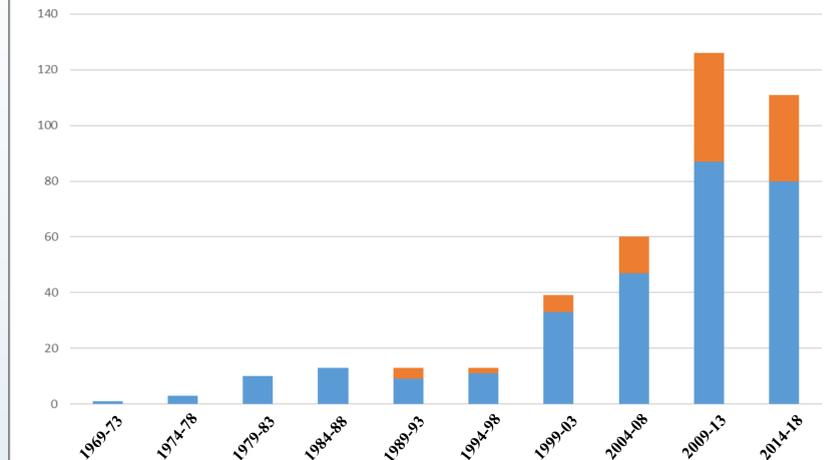
Results

The total number of peer-reviewed publications related to Charcot neuroarthropathy non-linearly increased from the 1969-1973 block to the 2009-2013 block, with an apparent plateau occurring at the 2009-2013 and 2014-2018 blocks. The first surgically themed publications did not occur until the 1989-1993 block, and similarly increased to an apparent plateau peaking at the 2009-2013 block. 44.2% of articles originated from the United States, and most frequently from the Northeast (35.9%), Midwest (28.1%), South (25.8%) and West (10.2%), respectively.

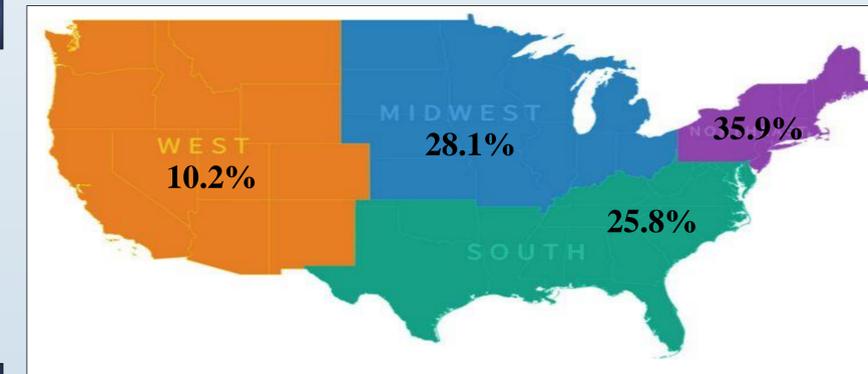
Discussion

The results of this investigation provide some preliminary objective evidence as to publishing patterns related to the diagnosis of Charcot neuroarthropathy as it relates to time, frequency, and geographic location. Avenues of future investigation might additionally include how surgical reconstruction of lower extremity Charcot neuroarthropathy relates to the overall scientific picture, as well as intended audiences for specific articles with respect to medical subspecialty.

Number of Citations Related to Charcot Neuroarthropathy



Figures 2 and 3: The top figure graphically depicts the number of publications meeting inclusion criteria relevant to medical professionals working with Charcot neuropathy. The orange subset designates those article with a surgical focus. 44.2% of published article originated from the US, with the specific geographic distribution designated in the bottom figure.



References

- [1] Sanders LE, Frykberg RG, Rogers LC. The diabetic Charcot foot: Recognition, Evaluation, and Management. In: Armstrong DG, Lavery LA, eds. Clinical care of the diabetic foot. Second edition. American Diabetes Association. Alexandria, Virginia, 2010, p79-96.
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- [3] Schneekloth BJ, Lowery NJ, Wukich DK. Charcot neuroarthropathy in patients with diabetes: an updated systematic review of surgical management. J Foot Ankle Surgery 2016; 55(3): 586-90.
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