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The Truth about the Hand of Benediction

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Abstract

This review explores the nuances of the well-known "Hand of Benediction", a gesture that has been captured in art and has a rich religious history. When the historical development of the Hand of Benediction is examined, it can be seen that it finds resonance in the blessings given by prominent individuals like St. Peter, Jesus Christ, and the popes. Various explanations for its genesis, encompassing anything from nerve dysfunctions to crucifixion injuries, are scrutinized closely to offer a thorough grasp of the historical background. The hand's anatomy, which is controlled by the ulnar and median nerves, serves as the main source of clarification. This review examines how benediction sign is produced by proximal median nerve lesions as opposed to distal ulnar nerve lesions, which cause ulnar clawing. To understand the subtleties of hand postures linked to these nerve injuries, the intrinsic and extrinsic muscles of the hand are investigated in detail. Clinical examination techniques, which take into account potential complicating variables such as Dupuytren's contracture, are described in depth to assist practitioners in differentiating between diseases of the median and ulnar nerves. This review seeks to reconcile the fields of art, medicine, and religion by highlighting the need of accurate anatomical descriptions. Ultimately, it provides a more complex interpretation of the Hand of Benediction, promoting precision in medical jargon and enhancing the multidisciplinary conversation about this mysterious motion.

Subject Areas

Clinical Medicine

Keywords

Hand of Benediction, Median Nerve, Ulnar Nerve, Claw Hand

1. Introduction

The apostolic blessing imparted by the pope throughout history has become one

of the most iconic religious images. This came to be known as the "Hand of Benediction" and had featured in religious art over centuries. This has prompted numerous discussions regarding the origins of this gesture and whether its roots lie within injury, deformity or symbolism.

In many medical texts books, this characteristic hand posture is synonymous with median nerve dysfunction (such as *Core Anatomy Illustrated* [1]). In contrary to this, other texts refer to the same posture as characteristic of the clawing seen in ulnar nerve dysfunction (*Rapid Orthopedic Diagnosis*) [2]. There is much debate regarding the term's most likely historical origin. Theories include Jesus adopting the sign on the cross due to a median nerve injury, St. Peter having an ulnar neuropathy and adopting the sign when giving blessings.

The term "hand of benediction", which is believed to have originated in medicine, describes a typical hand deformity caused by the disfunction of some of the intrinsic hand muscles, most notably the flexor digitorum profundus of the middle and index fingers. Usually, this syndrome develops after traumatic injuries to the median nerve, especially those that occur at the elbow or forearm level. When trying to form a fist, the hand of benediction clinically presents as an inability to flex the middle and index fingers, resulting in a peculiar appearance that resembles the stance taken during a religious benediction. The hand of benediction has religious and historical importance in addition to its therapeutic value in identifying median nerve disfunction. It is similar to the blessing gesture, that is actually seen in various religious practices adding a layer of intrigue and cultural significance to its study.

We explore the scientific and historical basis of this hand sign, describe the relevant anatomy, and clarify how the underlying nerve injury can be interpreted accurately through clinical examination.

2. The Hand of Benediction—In History

Classically, this gesture has been used by several Catholic popes including John Paul II, Paul VI and Pius XII during congregational blessings. Its origins are embedded deeply within religious art, and has also been associated with Jesus Christ, St Peter and Judaism.

The benediction sign has also been described historically as the 'crucifixion clench' [3]. Artistic renditions of crucifixion began to appear in the 5th century. Criminals were nailed to a crucifix by their upper limbs, whilst their feet were left to hang, not allowing contact with the "holy ground" [4] [5]. Many artistic depictions demonstrate the classic semi-clutched hand, with the thumb and index fingers in extension, the middle finger is partially flexed while the little and ring fingers are fully flexed (See **Figure 1**).

The exact method of fixing the upper limbs to the crucifix has been thoroughly debated by scholars. It is now believed that the nails could not have been passed through the hand, due to a mechanical inability to support the body weight. This theory has been supported by cadaveric studies [6]. In Schirer's study; titled "the science of crucifixion", he concluded that nailing through the

wrist would however support the body weight due to mechanical support from the transverse carpal ligament, flexor retinaculum and carpal bones [7]. Archeological findings near Jerusalem and the shroud of Turin have suggested that nailing through the wrists occurred between the radius and ulna [8] [9] [10]. Nevertheless, this would result in a distal median nerve injury, which would spare the thumb and finger flexors in the forearm (FDP and FPL). This therefore would not account for the classic hand posture.

Some of the earliest pieces of Christian art show St. Peter making the gesture with Jesus adopting an open palm. An example of this can be seen in an early Roman fresco painted sometime between the 2nd and 4th century (**Figure 2**). Futterman uses this to argue that the hand of benediction must be caused by an ulnar neuropathy, since the gesture is associated with St. Peter giving blessings and this would be performed with an open palm rather than a closed fist [11].

The exact significance and origin of this hand position within Christianity remains unclear. As early as the 2nd century its sacredness is described and is associated with an orator [12]. Further to this it is clearly demonstrated in 6th century mosaics depicting angels, priests, prophets and Christ himself. The hand of benediction is now a symbol synonymous with prayer. However what is likely to always remain unknown is whether its origins are in crucifixion or in benediction.

What also must be noted is that though artistic renditions of the "crucifixion clench"/hand of benediction began to flourish sometime after the 6th century, this also included non-Christian countries where the practice had also previously been prevalent. In addition the catalogue of artwork comes from an era after the practice was discontinued, so may represent imagery passed down through the ages, rather than from direct observation of the hand position. However the likeness of the hand position found across different cultures and artistic styles indicate that it may have been a widely observed finding that was passed down through time.

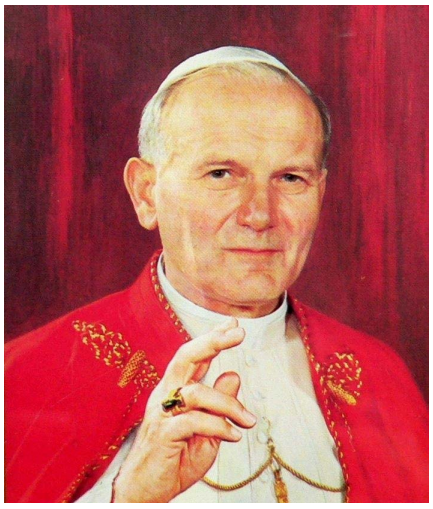

Figure 1. Pope John Paul II showing the benediction sign.

Figure 2. Dura Europos Synagogue: The Enlivenement of the Dry Bones Fresco. Damascus: National Museum of Syria, 244AD. Notice Ezekiel's right hand gesturing to the angels [14].

Less well known non-christian artwork includeS that found at the ancient Dura Europos Jewish synagogue in Syria. The paintings are now displayed at the national museum of Damascus (See **Figure 3**). Similarly The Hand of Sabazius which dates back to 100-299AD is on display at at the British museum [13], demonstrates the classic semi-clenched hand. Sabazius, was an Eastern God of fertility and vegetation worshiped by the Romans (See **Figure 4**).

3. Anatomy and the Benediction Sign

The motor innervation of the hand comes from the Median and ulnar nerves. Though they are classically described independently, approximately 20% of individuals are thought to have anastomoses. Variations within the forearm (Martin-Gruber anastomoses) [15] and hand (Riche-Cannieu anastomoses) [16] have been described.

The normal resting posture of the hand is determined by the tone of the intrinsic muscles of the hand and the balance they strike with the powerful extrinsic muscles arising from the forearm. Specific neurological deficits will therefore result in loss of tone and function within certain muscles which will in turn yield characteristic hand postures.

The intrinsic muscles of the hand include the dorsal and palmer interossei which originate from the metacarpals and insert into the extensor expansion. Their primary role is adduction and abduction of the fingers. Along with adductor pollicis of the thumb, they are innervated by the ulnar nerve.

Other intrinsic muscles include the thenar muscles of the thumb, the hypothenar muscles of the hand and the lumbricals. These lumbrical muscles have

a unique soft tissue origin and insertion; originating from flexor digitorum profundus (FDP) and inserting into the lateral bands of the extensor expansion. They function to flex the metacarpophalengeal joints (MCPJ), whilst maintaining extended inter-phalengeal joints. Typically the index and ring lumbricals are innervated by the median nerve and the ring and little by the ulnar nerves. This divided innervation between the ulnar and median nerve is also seen in the powerful extrinsic FDP muscle. This muscle originates within the forearm and inserts at the bases of the distal phalanges facilitating flexion of the interphalangeal joints primarily the distal interphalangeal joints (DIPJ). Similar to the lumbricals, FDP to the index and middle fingers are innervated by the anterior interosseus nerve, a branch of the median nerve; while the little and ring fingers are innervated by the ulnar nerve.

Extrinsic muscles of the hand, refer to muscles whose origin is proximal to the hand itself. They then exert a flexion or extension action via their long tendons. Therefore as well as FDP, the other extrinsic flexor is flexor digitorum superficialis (FDS), which inserts at the base of the middle phalanx of the hand and facilitates flexion at the proximal interphalengeal joint (PIPJ). This muscle along with the rest of the muscles in the flexor compartment of the forearm is innervated by the median nerve.

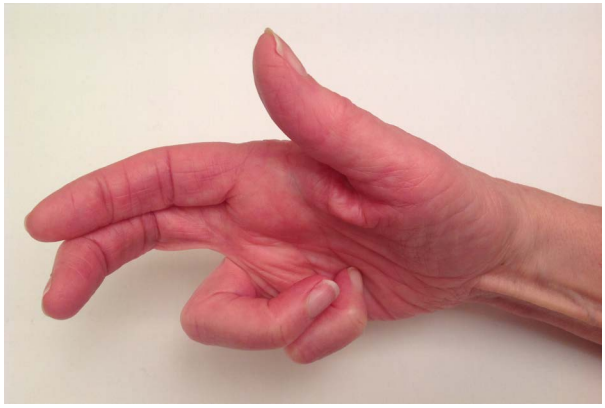

Figure 3. Hand of benediction (proximal median neuropathy definition).

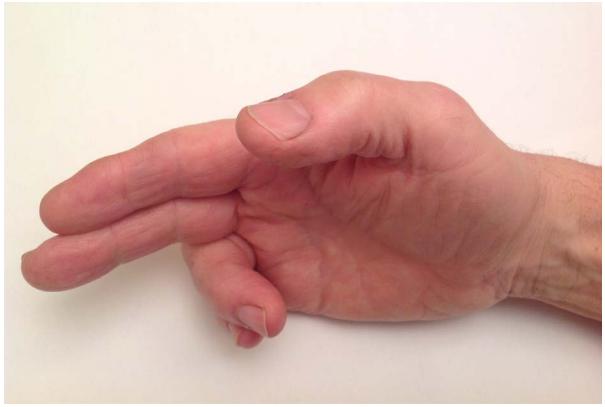

Figure 4. Ulnar nerve injury.

Extrinsic extensors of the fingers have a common origin at the lateral epicondyle of the distal humerus. These include extensor digitorum communis (EDC) which forms the extensor apparatus of the fingers. The index finger is supplemented by the Extensor digitorum indicis (EDI) muscle and the little finger by extensor digitorum minimi (EDM). The extensor pollicis longus is an extrinsic extensor of the thumb. These extensors are innervated by the posterior interosseus nerve, which is a branch of the radial nerve and cause extension of the MCPJs and interphalangeal joints.

Therefore a median nerve injury at or proximal to the level of the elbow results in weakness of the lumbricals and FDP to the index and ring fingers causing an inability to flex these fingers. The unopposed extensors will keep these fingers extended. The normal and slightly flexed resting posture of the ring and little fingers would be maintained. When the patient attempts to make a fist, it will give rise to the classic benediction sign.

A more distal median nerve lesion, for example, carpal tunnel syndrome or indeed passing a nail through the hand or wrist (crucifixion injury), would not affect the FDS or FDP whose nerve supply is given off at the level of the elbow. However when fixed to the cross, the victims shoulders are maintained at approx. 135˚, with the shoulder externally rotated and the elbow extended. The forearm is also supinated with radial deviation at the wrist. Given this position combined with the suspended weight of the body, some have postulated that a traction injury of the median nerve may be to blame. Several anatomical and cadevaric studies have demonstrated increased median nerve strain and excursion at the wrist and elbow with shoulder abduction and external rotation, and elbow extension [17] [18] [19].

4. Clinical Examination—Determining the Nerve Injury

The aim here is to demonstrate the difference between the benediction sign and the ulnar claw hand. An easy way to distinguish them is by asking the patient to make a fist and to open their palm. A proximal median neuropathy becomes obvious when trying to make a fist, whereas the ulnar claw can be seen at rest and when making an open palm.

A patient being unable to fully extend their 4th and 5th fingers to make an open palm can also occur in Dupuytren's contracture. In the more advanced phase this may resemble the hand of benediction. If this is the case, usually a cord will be palpable and passive extension of the fingers will be difficult or impossible. There will also be no neurological deficit.

There are two special tests that can also be used for checking for a median and ulnar neuropathy. To test for a median nerve palsy, ask the patient to oppose their thumb and index finger to make an "okay" sign and compare both hands. A median nerve injury is suggested if the opposition produces a pinched circle on one side. An ulnar nerve palsy can be tested by checking Froment's sign, which involves asking the patient to hold a piece of paper between their thumb

and index finger. The paper is then pulled and the test is positive if the patient has to compensate by flexing their 1st interphalangeal joint to maintain their grip, thereby recruiting flexor pollicis longus which is innervated by the median nerve.

The deformity seen in an ulnar nerve lesion proximal to the elbow is due to weak lumbricals and FDP to the ring and little fingers. Unopposed action from the extensors results in hyperextension at the MCPJ. Weak lumbricals with unopposed action of FDS result in a resting flexed posture of the interphalangeal joints. The index and middle fingers have a normal posture.

In a more distal ulnar nerve lesion, the FDP remains innervated but the intrinsic muscles of the hand are not spared. The lack of lumbrical action alone will result in a flexed posture of the PIP joints but the superimposed action of the functional FDP and FDS will accentuate this further. Therefore, the more proximal ulnar nerve lesion actually results in a less pronounced deformity and a lesion around the level of the wrist a more pronounced deformity. This is referred to as the ulnar paradox. The classical hand posture itself is referred to as the 'ulnar claw' (See Table 1).

5. Conclusions

The "hand of benediction" is a common source of confusion. It is used to describe a proximal median neuropathy, but also sometimes used to describe ulnar clawing. The origin of the hand of benediction and its depiction in Art, could have stemmed from a median nerve injury, ulnar nerve injury, Dupuytren's contracture, or simply an intentional gesture. The evidence available can allow us to better appreciate the religious evolution of the hand sign, but is not sufficient to determine the original pathology. For medical notes to be accurate, it is imperative that terms used are mutually understood. Due to the lack of consensus over what the term "hand of benediction" means, it is safer to describe the position of the MCPJs and the PIPJs both when the patient tries to make a fist and when they try to open their palm. Because of these intricacies, a clear understanding of the anatomical principles remains a regularly tested component of both undergraduate and postgraduate anatomy and surgical examinations.

Table 1. Distinguishing hand of benediction and ulnar claw.

	Hand of Benediction (proximal median neuropathy definition)	Ulnar Claw
Nerve involved	Proximal median nerve lesion	Distal ulnar nerve lesion
Digits affected	2nd + 3rd digits most affected	4th + 5th digits affected
Presentation with an open palm and at rest	Normal	4th + 5th MCPJs hyperextended 4th + 5th Interphalangeal joints flexed
Presentation when making a fist	2nd + 3rd MCPJs hyperextended 2nd + 3rd Interphalangeal joints neutral	Normal
Additional signs	Wasting of the thenar eminence	Wasting of the hypothenar eminence and dorsal interossei

The hand of benediction has generated debates and misunderstandings within the field of hand pathology, mainly because of its similarities to other hand conditions. To differentiate the hand of benediction from disorders such as ulnar nerve neuropathy or other lesions of the median nerve, differential diagnosis understanding is essential. Despite having similar outward appearances, each ailment is caused by unique nerve lesions and structural disturbances, therefore a careful clinical examination is required for accurate diagnosis and appropriate treatment strategies. Failure to differentiate these pathologies can lead to misdiagnosis and ineffective treatment, underscoring the importance of thorough examination and diagnostic precision in hand pathology.

Furthermore, the ambiguity and possibility for misunderstanding surrounding the hand of benediction in contemporary medical discourse stems from the historical and theological settings surrounding it. This act of blessing is frequently depicted in creative representations throughout history, but the subjectivity and complexity of its significance are brought to light by the inconsistent portrayals and the differing interpretations of its symbolism within different religious traditions. For example, Renaissance artworks often depict religious figures making hand gestures that resemble the hand of benediction, with their fingers extended in specific configurations. Assigning medical importance to historical or religious symbols runs the risk of oversimplification and misinterpretation, even though these representations might be consistent with the clinical presentation of the hand of benediction. In order to prevent misunderstanding and ensure correct diagnosis and treatment of these hand disorders, objective anatomical and clinical evaluation should take precedence over historical or religious implications in contemporary medical discourse. In the end, clinical decision-making in hand surgery and rehabilitation ultimately depends on having a thorough grasp of nerve lesions and their clinical presentations. We feel that "the hand of benediction" is an ambiguous and outdated term and should not make up part of medical nomenclature.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Parkin, I., Logan, B.M. and McCarthy, M.J. (2007) Core Anatomy Illustrated. CRC Press, Florida. https://doi.org/10.1201/b13362

[2] Mostofi, S.B. (2009) Rapid Orthopedic Diagnosis. Springer, London. https://doi.org/10.1007/978-1-84800-209-8

[3] Regan, J.M., Shahlaie, K. and Watson, J.C. (2013) Crucifixion and Median Neuropathy. *Brain and Behaviour*, **3**, 243-248. https://doi.org/10.1002/brb3.132

[4] Jackson, S.M. (1909) The New Schaff-Herzog Encyclopedia of Religious Knowledge. Funk & Wagnalls, New York, 312-314.

[5] Tenney, S. (1964) On Death by Crucifixion. *American Heart Journal*, **68**, 286-287. https://doi.org/10.1016/0002-8703(64)90055-9

[6] Barbet, P. (1953) A Doctor at Calvary: The Passion of Our Lord Jesus Christ as Described by a Surgeon. Doubleday Image Books, Garden City, NY, 12-18, 37-147, 159-175, 187-208.

[7] Shrier, C. (2002) The Science of the Crucfixion. In: Flint, T., Ed., *In Focus*, Azusa Pacific University, Azusa, CA.

[8] Haas, N. (1970) Anthropological Observations on the Skeletal Remains from Giv'at ha-Mivtar. *Israel Exploration Journal*, **20**, 38-59.

[9] Weaver, K. (1980) The Mystery of the Shroud. *National Geographic*, **157**, 730-753.

[10] Tzaferis, V. (1971) Jewish Tombs at and Near Giv'at ha'Miv Jerusalem. *Israel Exploration Journal*, **20**, 18-22.

[11] Futterman, B. (2015) Analysis of the Papal Benediction Sign: The Ulnar Neuropathy of St. Peter. *Clinical Anatomy*, **28**, 696-701. https://doi.org/10.1002/ca.22584

[12] Elworthy, F.T. (1900) Horns of Honour and Other Studies in the By-Ways of Archaeology. J. Murray, London, 315.

[13] The British Museum Collection. https://www.walksofitaly.com/blog/art-culture/pope-john-paul-ii-who-was-he-and-why-was-he-important-part-i

[14] Unknown Artist (244AD) Dura Europos Synagogue: The Enlivenement of the Dry Bones Fresco. National Museum of Syria, Damascus.

[15] Cavalheiro, C., Filho, M., Pedro, G., Caetano, M., Vieira, L. and Caetano, E. (2016) Clinical Repercussions of Martin-Gruber Anastomosis: Anatomical Study. *Revista Brasileira de Ortopedia*, **51**, 214-223. https://doi.org/10.1016/j.rbo.2015.06.003

[16] Riche, P. (1897) Le nerf cubital et les muscles de l'eminence thenar. *Bulletins et Mémoires de la Société Anatomique de Paris*, **5**, 251-252.

[17] Byl, C., Puttlitz, C., Byl, N., Lotz, J. and Topp, K. (2002) Strain in the Median and Ulnar Nerves during Upper-Extremity Positioning. *The Journal of Hand Surgery*, **27**, 1032–1040. https://doi.org/10.1053/jhsu.2002.35886

[18] Wright, T.W., Glowczewskie, F., Wheeler, D., Miller, G. and Cowin, D. (1996) Excursion and Strain of the Median Nerve. *The Journal of Bone and Joint Surgery*, **78**, 1897-1903. https://doi.org/10.2106/00004623-199612000-00013

[19] Kleinrensink, G.J., Stoeckart, R., Vleeming, A., Snijders, C.J. and Mulder, P.G. (1995) Mechanical Tension in the Median Nerve. The Effects of Joint Positions. *Clinical Biomechanics*, **10**, 240-244. https://doi.org/10.1016/0268-0033(95)99801-8