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Analysis of the Papal Benediction Sign: The Ulnar Neuropathy of St. Peter

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The origin of the Papal Benediction Sign has been a source of controversy for many generations of medical students. The question has been whether the Papal Benediction Sign posture is the result of an injury to the median nerve or to the ulnar nerve. The increasingly popular use of online “chat rooms” and the vast quantities of information available on the internet has led to an increasing level of confusion. Looking in major anatomy texts, anatomy and board review books as well as numerous internet sites the answer remains unresolved. Through the analysis of functional anatomy of the hand, cultural and religious practices of the early centuries of the Common Era and church art a clear answer emerges. It will become apparent that this hand posture results from an ulnar neuropathy. Clin. Anat. 00:000–000, 2015. © 2015 Wiley Periodicals, Inc.

Key words: ulnar neuropathy; median neuropathy; Papal Benediction Sign

INTRODUCTION

The Papal Benediction Sign and its relationship to a peripheral neuropathy are found in some anatomical texts (Dutton, 2004; Snell, 2004; Moore, 2014). Not all sources agree on which peripheral neuropathy is the cause. *Clinically Oriented Anatomy* (Moore, 2004) indicates that the cause is a median nerve injury while *Clinical Anatomy* (Snell, 2004) and *Orthopaedic Examination, Evaluation and Intervention* (Dutton, 2004) state that this hand position is the result of an ulnar nerve injury and *Gray’s Anatomy for Students* (Drake et al., 2010) does not comment on it at all. Further controversy is related to the multiple names used to describe the same hand posture. In addition to being called the Papal Benediction Sign, it is also referred to as the Preacher’s hand, the ulnar claw hand, “main-en-griffe,” and hand of benediction. Review books and internet sites often interchange these names. The ulnar vs. median controversy continues on in the online medical student chat rooms. In these online sites, contributors state that the median nerve is the culprit and then others will write with equal veracity that it is the ulnar nerve (Answers. Yahoo.com; Scrub Notes; USMLE forums). The popular medical student board review book series, *First Aid for the USMLE Step 1* further adds to the confusion. This annually published review book provides various explanations in different editions and even provides conflicting

information within individual editions. The 2000 edition states that an injury to the ulnar nerve causes the Papal Hand (Bhushan et al., 2000). In the 2007 edition, a diagram of the branches of the brachial plexus indicates the injury is to the median nerve. An accompanying drawing shows a hand with an ulnar claw, identical to the Papal Hand labeled in the same edition as resulting from an ulnar injury (Bhushan et al., 2007). In the 2009 edition, the authors once again indicate that the Pope’s blessing was due to an ulnar nerve injury and on subsequent charts in the same edition indicate the cause being median nerve damage (Le et al., 2009). A comparison of the 2012 and 2013 editions reveal contrasting and contradictory statements about the involvement of the ulnar and median nerve in formation of the Papal Hand (Le et al., 2012; Le and Bhushan, 2013).

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RESULTS

There is agreement on the functional anatomy of the hand. The median nerve innervates the portion of the flexor digitorum profundus going to the index and long fingers. It also supplies all of the flexor digitorum superficialis and the lumbricals to the index and long fingers. Anterior interosseous branches of the median nerve supply the flexor pollicis longus, pronator quadratus, and the radial half of the flexor digitorum profundus. The ulnar nerve innervates the flexor digitorum profundus and the lumbricals to the ring and small fingers as well as all of the interossei muscles of the hand. Sensation to the palmar surface of the radial three and one-half fingers is supplied by the median nerve and the ulnar nerve supplies the palmar surface of the remaining ulnar half of the fourth digit and the entire fifth digit. If someone has a median nerve injury and tries to make a fist the index and long fingers would remain in extension while the ring and small fingers would flex at the metacarpal-phalangeal (MP) and at the interphalangeal (IP) joints. This is the explanation put forth by authors who support the median neuropathy etiology. If an ulnar nerve injury was present, a person attempting to open his hand would be left with the index and long fingers in extension while the ring and small fingers would be flexed at the inter-phalangeal joints but extended at the metacarpal-phalangeal joints (Moore et al., 2014). The metacarpal-phalangeal joint position is due to the loss of interossei and lumbricals function to digits four and five countered by the radial nerve innervated finger extensors (Rosen and Koznarsky, 2009; Stern, 1988). The resulting hand posture is similar regardless of there being a median or an ulnar nerve injury present. The position of the metacarpal-phalangeal joints of digits four and five is critical. Additionally, it is significant to know whether the intended position was open hand or closed fist.

With the controversy of the Papal Benediction Sign, it is important to consider the following. When the Pope gave a blessing, was his intention to bless his followers with an open hand or a fist? The open hand has always been the standard hand position of greetings representing peaceful intentions. Premeditated violence and the fear of hidden weapons are eliminated with an open hand. Even the tyrannical leaders of modern and ancient times are represented with open hand posture (Caesar and Hitler). The idea of giving a blessing with a fist is inconsistent with cultural and historical reality. The open hand would have been the desired posture. Making a fist was just not part of the blessing process and therefore, neither was the concept of the presence of a median neuropathy.

Further evidence supporting the ulnar nerve etiology was obtained from the examination of images of many statues, paintings, icons, and photographs of the Papal lineage. Careful analysis of the images of Peter and other early Popes reveal that the blessing hand is consistently in the posture of an ulnar neuropathy. Later Popes held their hands in differing patterns while providing blessings. Some held their hands with the fourth and fifth fingers in full flexion, while others

held their fingers in extension at the metacarpal-phalangeal joint and the interphalangeal joints in varying degrees of flexion and still others appeared with their hands in a fully open position. None however, appeared with a clenched fist. It would appear that Peter, the first Pope, was the model for the Papal Benediction Hand. Analysis of the earliest images of Peter would afford us with the best visual evidence of how Peter actually held his hand while pronouncing a blessing. One of the earliest known images of Peter is found in a fresco on the walls of the Catacombs of St. Domitilla. This has been dated to the period between the second and fourth centuries that is between one and three hundred years after Peter's service as the first Pope. In this fresco, Jesus is surrounded by his Apostles. Their hands are visible and as always, Peter can be identified by his curly hair and short beard (Mancinelli, 1981). The hand of Peter is distinctly different from all the other hands shown. The ring and small fingers of his right hand are much shorter than his other fingers or the fingers of any of the other apostles. Peter's ring and small fingers are visible only to the proximal interphalangeal joints. In other words, his PIP joints are in flexion while the MP joints are in extension, typical of a hand with an ulnar neuropathy. Jesus is represented in this fresco with his right hand raised in a totally open position (Fig. 1). It appears that the Papal Benediction Sign started with the first pope and later spread to a more generalized use in church art. Out of respect and admiration for Peter, future Popes used his "benediction sign" while preaching and performing blessings. As George Bernard Shaw said, "imitation is not just the sincerest form of flattery—it's the sincerest form of learning" (Search Quotes, 2015). The renderings of Popes who served close to the time of Peter and that were created in the earlier centuries of the Common Era reveal findings consistent with an ulnar neuropathy. The greater the temporal distance is from the original source, the greater the probability that there will be changes from its original form. This original pattern (Peter's Hand pose) is still clearly visible in a 12th century mosaic of Pope Callixtus (217–222) (Fig. 3) and in an early 14th century statue of Pope Boniface VIII (1303–1304) (Fig. 4). With the passage of time, the form of the Papal hand began to show variations. In what is undoubtedly the most famous statue of Saint Peter, the 14th century statue of the enthroned St. Peter, housed in St. Peter's Basilica, his hand is no longer shown with the MP joints fully extended, but rather in a moderate degree of flexion (Fig. 5). From this point on into modernity, Papal portraits and photographs reveal many variations in Papal hand posture (Elliot, 1988).

The hand pose of an ulnar neuropathy can also be seen in funerary art and non-church objects from the earliest centuries of the Common Era. The carving on the 3rd century Dogmatic Sarcophagus (Fig. 6) (Vanderbilt Divinity School) and many of the carvings on the early 4th century Sarcophagus of the Spouses reveal hands carved in the benediction posture (Fig. 7) (Vanderbilt Divinity School). The late 2nd century Roman bronze votive "Image of 'Hand of Sabazius' with permission of the British Museum," part of the



Fig. 1. Jesus and his Apostles Fresco from St. Domitilla Catacombs 2nd to 4th C. Rome. (notice hand of Peter in black outline).

British Museum collection, is adorned with pagan symbols but is also cast with the familiar ulnar neuropathy deformity (British Museum) (Fig. 8).

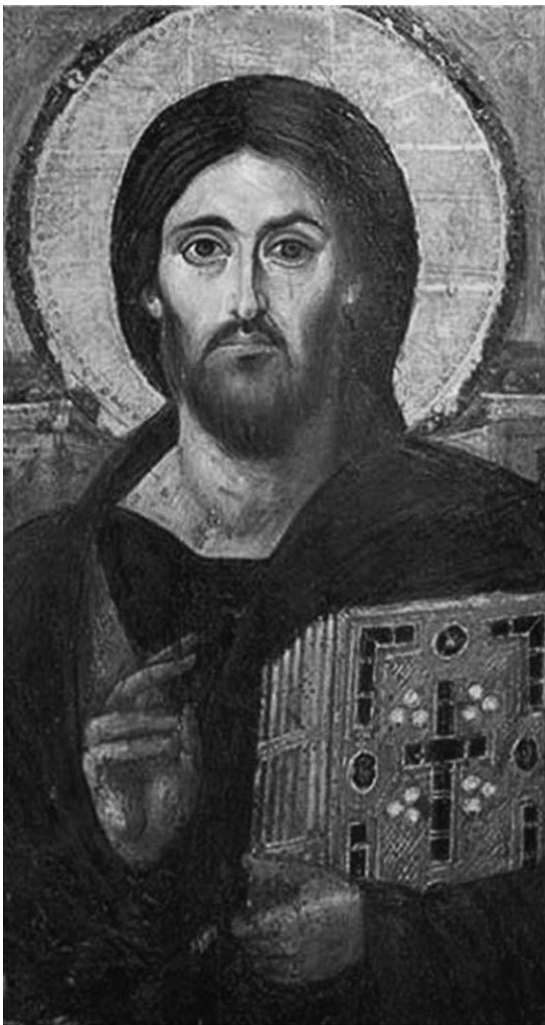


Fig. 2. Christ Pantocrator, Monastery of St. Catherine 6th C.

Theologians explain that hand positions have religious meanings. The three fingers extended together, represent the "Holy Trinity" while the two bend fingers represent the duality of Jesus. The Orthodox Church also explains the bent and straight fingers as the formation of the Greek letters spelling out the name of the Christ. The 6th century wax icon of Christ found at the Monastery of St. Catherine in the Sinai shows his right hand in the same pose as Peter's hand seen in the earlier fresco from Catacombs of St. Domitilla (Fig. 2). Although these poses have powerful religious symbolism, the explanations were presented centuries after the appearance of the "Benediction Hand" posture. The deformity has been found in objects that pre-date the formal establishment of Christianity.

Further evidence supporting an ulnar origin is found in an examination of the practices of the ancient Jewish priests. Jesus, as well as his apostles were Jewish and as such would have been familiar with the practices of the Jewish communities of both the Holy Lands and other Mediterranean regions. They would have been familiar with the practices of the High priest of the Holy Temple in Jerusalem as is outlined



Fig. 3. Mosaic 1140 Pope Callixtus (217–222) [http://library.artstor.org/library/secure/ViewImages?id=8CNZfzkuPDhdLS04eTp4QnsjUw%3D%3D&userId=hDRcCzkv&zoomparams=.](http://library.artstor.org/library/secure/ViewImages?id=8CNZfzkuPDhdLS04eTp4QnsjUw%3D%3D&userId=hDRcCzkv&zoomparams=)



Fig. 4. Boniface VIII 1303 http://upload.wikimedia.org/wikipedia/commons/thumb/1/1c/Bonifatius_VIII_Grabstatue.JPG/478px-Bonifatius_VIII_Grabstatue.JPG.

in the Old Testament Book of Numbers (Lieber, 2001a). Additional references to the Holy Temple are found in the New Testament; Mark 11:15–19 and Luke 2:41–52 (King James Bible, 1987a,b). The early Judeo-Christians would have adopted practices with which they were familiar. They would bless their followers in the manner in which they themselves had been blessed. The three-part priestly blessing currently used in both Christian services and Jewish religious services dates back to the Temple service of the High Priest in ancient Jerusalem (Lieber, 2001b). When the Priest pronounced the blessing, he would position his hands with his fingers extended and his index and long finger held together in a pair that was widely abducted from his extended and paired ring and small finger. A representation of this pose is commonly engraved on the tombstones of Jewish men who were of the priestly class. This posture is also known to many as the Vulcan salute of Mr. Spock from the popular television and movie series “Star Trek” (Yiddish Book Center, 2013). If one has an ulnar nerve deficit, he will be unable to abduct his fingers and form the hand posture of the High Priest. This provides evidence that the intended hand position to be used during a blessing was unattainable due to an



Fig. 5. Statue of St. Peter, St. Peter’s Basilica 14th C.

ulnar neuropathy. As he tries to position his hand in the High Priest hand pose, the ring and small finger of the hand will start to assume the posture of the Papal Hand of Benediction and as the ulnar neuropathy



Fig. 6. Details from Dogmatic Sarcophagus 3rd C.



Fig. 7. Details from Sarcophagus of the Spouses early 4thC.

becomes chronic, the hand at rest, assumes the benediction posture (Rosen and Koznarsky, 2009).

CONCLUSIONS

In summary, cultural history and the peaceful nature of the open hand support its use when giving a blessing. The functional anatomy involved in the making of an open hand, when viewed in the light of cultural and historical norms support an ulnar nerve etiology. The revelation that early Church art show the

hand of benediction to be a pose consistent with an ulnar neuropathy, the Jewish roots of Christianity and the service of the High Priest further support the intended position for the "hand of benediction" and the inability to form that pose in the presence of an ulnar neuropathy overwhelmingly, support the conclusion that an ulnar neuropathy is the underlying cause of the Papal Benediction Sign.

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Fig. 8. The Hand of Sabazius 2nd C. (British Museum).

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