

The Crucifixion - Medical Account

The Passion of Christ from a Medical Point of view

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In this paper, I shall discuss some of the physical aspects of the passion, or suffering, of Jesus Christ. We shall follow Him from Gethsemane, through His trial, His scourging, His path along the Via Dolorosa; to His last dying hours on the cross. This led me first to a study of the practice of crucifixion itself; that is, the torture and execution of a person by fixation to a cross. Apparently, the first known practice of crucifixion was by the Persians. Alexander and his generals brought it back to the Mediterranean world - Egypt and Carthage. The Romans apparently learned the practice from the Carthaginians and (as with almost everything the Romans did) rapidly developed a very high degree of efficiency and skill in carry it out. A number of Roman authors (Livy, Cicero, Tacitus) comment on it. Several innovations and modifications are described in the ancient literature; I'll mention only a few which may have some bearing here. The upright portion of the cross (or stipes) could have the cross-arm (or patibulum) attached two or three feet below its top - this is what we commonly think of today as the classical form of the cross (the one which we have later named the Latin cross); however, the common form used in Our Lords day was the Tau cross (shaped like the Greek letter Tau or like our T). In this cross the patibulum was placed in a notch at the top of the stipes. There is fairly overwhelming archeological evidence that it was on this type of cross that Jesus was crucified.

The upright post, or stipes, was generally permanently fixed in the ground at the site of execution and the condemned man was forced to carry the patibulum, apparently weighing about 110 pounds, from the prison to the place of execution. Without any historical or biblical proof, medieval and Renaissance painters have given us our picture of Christ carrying the entire cross. Many of these painters and most of the sculptors of crucifixes today show the nails through the palms. Roman historical accounts and experimental work have shown that the nails were driven between the small bones of the wrists and not through the palms. Nails driven through the palms will strip out between the fingers when they support the weight of a human body. The misconception may have come about through a misunderstanding of Jesus words to Thomas, "*Observe my hands*". Anatomists, both modern and ancient, have always considered the wrists as part of the hand.

A titulus, or small sign, stating the victim's crime was usually carried at the front of the processions and later nailed to the cross above the head. This sign with its staff

nailed to the top of the cross would have given it somewhat the characteristic form of the Latin cross.

The physical passion of the Christ begins in Gethsemane. Of the many aspects of this initial suffering, I shall only discuss the one of physiological interest; the bloody sweat. It is interesting that the physician of the group, St. Luke, is the only one to mention this. He says, "*And being in agony, He prayed the longer. And his sweat became as drops of blood, trickling down upon the ground*".

Every attempt imaginable has been used by modern scholars to explain away this phrase, apparently under the mistaken impression that this just doesn't happen.

A great deal of effort could be saved by consulting the medical literature. Though very rare, the phenomenon of Hematidrosis or bloody sweat is well documented. Under great emotional stress, tiny capillaries in the sweat glands can break, thus mixing blood with sweat. This process alone could have produced marked weakness and possible shock.

We shall move rapidly through the betrayal and arrest; I must stress that important portions of the passion story are missing from this account. This may be frustrating to you, but in order to adhere to our purpose of discussing only the purely physical aspects of the Passion, this is necessary. After the arrest in the middle of the night, Jesus was brought before the Sanhedrin and Caiphas, the High Priest; it is here that the first physical trauma is inflicted. A soldier struck Jesus across the face for remaining silent when questioned by Caiphas. The palace guards then blindfolded Him and mockingly taunted Him to identify them as they each passed by, spat on Him, and struck Him in the face.

In the morning, Jesus, battered and bruised, dehydrated, and exhausted from a sleepless night, is taken across Jerusalem to the Praetorium of the Fortress Antonia, the seat of government of the Procurator of Judea, Pontius Pilate. You are, of course, familiar with Pilate's action in attempting to pass responsibility to Herod Antipas, the Tetrarch of Judea. Jesus apparently suffered no physical mistreatment at the hands of Herod and was returned to Pilate.

The Crucifixion - Medical Account

It was then, in response to the cries of the mob, that Pilate ordered Bar-Abbas released and condemned Jesus to scourging and crucifixion. There is much disagreement among authorities about scourging as a prelude to crucifixion. Most Roman writers from this period do not associate the two. Many scholars believe that Pilate originally ordered Jesus scourged as his full punishment and that the death sentence by crucifixion came only in response to the taunt by the mob that the Procurator was not properly defending Caesar against this pretender who claimed to be the King of the Jews.

Preparations for the scourging are carried out. The prisoner is stripped of His clothing and His hands are tied to a post above His head. It is doubtful whether the Romans made any attempt to follow the Jewish law in this matter of scourging. The Jews had an ancient law prohibiting more than forty lashes. The Pharisees, always making sure that the law was strictly kept, insisted that only thirty-nine lashes be given. (In case of a miscount, they were sure of remaining within the law.) The Roman legionnaire steps forward with the flagrum (or flagellum) in his hand. This is a short whip consisting of several heavy, leather thongs with two small balls of lead attached near the ends of each.

The heavy whip is brought down with full force again and again across Jesus shoulders, back and legs. At first the heavy thongs cut through the skin only. Then, as the blows continue, they are cut deeper into the subcutaneous tissues, producing first an oozing of blood from the capillaries and veins of the skin, and finally spurting arterial bleeding from vessels in the underlying muscles. The small balls of lead first produce large, deep bruises which are broken open by subsequent blows. Finally the skin of the back is hanging in long ribbons and the entire area is an unrecognizable mass of torn bleeding tissue. When it is determined by the centurion in charge that the prisoner is near death, the beating is finally stopped.

The half-fainting Jesus is then untied and allowed to slump to the stone pavement, wet with His own blood. The Roman soldiers see a great joke in this provincial Jew claiming to be a king. They throw a robe across His shoulders and place a stick in His hand for a scepter. They still need a crown to make their travesty complete. A small bundle of flexible branches covered with long thorns (commonly used for firewood) are plaited into the shape of a crown and this is pressed into His scalp. Again there is copious bleeding (the scalp being one of the most vascular areas of the body.) After mocking Him and striking Him across the face, the soldiers take the stick from His hand and strike Him across the head, driving the thorns deeper into His scalp. Finally, they tire of their sadistic sport and the robe is torn from His back. This had

already become adherent to the clots of blood and serum in the wounds, and its removal, just as in the careless removal of a surgical bandage, causes excruciating pain...almost as though He were again being whipped - and the wounds again begin to bleed.

In deference to Jewish custom, the Romans return His garments. The heavy patibulum of the cross is tied across His shoulders and the procession of the condemned Christ, two thieves and the execution detail of the Roman soldiers, headed by a centurion, begins its slow journey along the Via Dolorosa. In spite of His efforts to walk erect, the weight of the heavy wooden cross together with the shock produced by copious blood loss is too much. He stumbles and falls. The rough wood of the beam gouges into the lacerated skin and muscles of the shoulders. He tries to rise, but human muscles have been pushed beyond their endurance. The centurion, anxious to get on with the crucifixion, selects a stalwart North African onlooker, Simon of Cyrene, to carry the cross. Jesus follows, still bleeding and sweating the cold, clammy sweat of shock. The 650 yard journey from the fortress Antonia to Golgotha is finally completed. The prisoner is again stripped of His clothes - except for a loin cloth which is allowed the Jews.

The crucifixion begins, Jesus is offered wine mixed with Myrrh, a mild analgesic mixture. He refuses to drink. Simon is ordered to place the cross on the ground and Jesus is quickly thrown backward with His shoulders against the wood. The legionnaire feels for the depression at the front of the wrist. He drives a heavy, square, wrought-iron nail through the wrist and deep into the wood. Quickly, he moves to the other side and repeats the action, being careful not to pull the arms too tightly, but to allow some flexibility and movement. The patibulum is then lifted in place at the top of the stipes and the titulus reading "*Jesus of Nazareth, King of the Jews*" is nailed in place.

The left foot is pressed backward against the right foot, and with both feet extended, toes down, a nail is driven through the arch of each, leaving the knees moderately flexed. The victim is now crucified. As He slowly sags down with more weight on the nails in the wrists, excruciating, fiery pain shoots along the fingers and up the arms to explode in the brain - the nails in the wrists are putting pressure on the median nerves. As He pushes Himself upward to avoid this wrenching torment, He places His full weight on the nail through His feet. Again there is the searing agony of the tearing through the nerves between the metatarsal bones of the feet.

The Crucifixion - Medical Account

At this point, another phenomenon occurs. As the arms fatigue, great waves of cramps sweep over the muscles, knotting them in deep, relentless, throbbing pain. With these cramps comes the inability to push Himself upward. Hanging by His arms, the pectoral muscles are paralyzed and the intercostal muscles are unable to act. Air can be drawn into the lungs, but cannot be exhaled. Jesus fights to raise Himself in order to get even one short breath. Finally carbon dioxide builds up in the lungs and in the blood stream and the cramps partially subside. Spasmodically, He is able to push Himself upward to exhale and bring in the life-giving oxygen. It was undoubtedly during these periods that He uttered the seven short sentences which are recorded:

The first, looking down at the Roman soldiers throwing dice for His seamless garment, *“Father, forgive them for they know not what they do”*.

The second, to the penitent thief, *“Today thou shalt be with me in Paradise”*.

The third, looking down at the terrified, grief stricken, adolescent John, (the beloved Apostle), He said, *“Behold thy mother”*, and looking to Mary, His mother, *“Woman behold thy son”*.

The fourth cry is from the beginning of the 22nd Psalm, *“My God, my God, why hast thou forsaken me?”*

Hours of this limitless pain, cycles of twisting joint-rending cramps, intermittent partial asphyxiation, searing pain as tissue is torn from His lacerated back as He moves up and down against the rough timber: then another agony begins. A deep crushing pain deep in the chest as the pericardium slowly fills with serum and begins to compress the heart.

Let us remember again the 22nd Psalm (the 14th verse), *“I am poured out like water, and all my bones are out of joint; my heart is like wax, it is melted in the midst of my bowels.”* It is now almost over - the loss of tissue fluids has reached a critical level - the compressed heart is struggling to pump heavy, thick, sluggish blood into the tissue - the tortured lungs are making a frantic effort to draw in small gulps of air. The markedly dehydrated tissues send their flood of stimuli to the brain.

Jesus gasps His fifth cry, *“I thirst”*.

Let us remember another verse from the prophetic 22nd Psalm: *“My strength is dried up like a potsherd; and my tongue cleaveth to my jaws; and thou hast brought me into the dust of death.”*

A sponge soaked in Posca, the cheap, sour wine which is the staple drink of the Roman legionnaires, is lifted to His lips. He apparently does not take any of the liquid. The body of Jesus is now in extremis and He can feel the chill of death creeping through His tissues. This realization brings out His sixth words - possibly little more than a tortured whisper.

“It is finished.”

His mission of atonement has been completed. Finally He can allow his body to die.

With one last surge of strength, he once again presses His torn feet against the nail, straightens His legs, takes a deeper breath, and utters His seventh and last cry, *“Father into thy hands I commit my spirit.”*

The rest you know. In order that the Sabbath not be profaned, the Jews asked that the condemned men be dispatched and removed from the crosses. The common method of ending a crucifixion was by cruxifraction, the breaking of the bones of the legs. This prevents the victim from pushing himself upward; the tension could not be relieved from the muscles of the chest, and rapid suffocation occurred. The legs of the two thieves were broken, but when they came to Jesus they saw that this was unnecessary, thus fulfilling the scripture, *“...not one bone shall be broken”*.

Apparently to make doubly sure of death, the legionnaire drove his lance through the fifth interspace between the ribs, upward through the pericardium and into the heart. The 34th verse of the 19th chapter of the Gospel according to John: *“And immediately there came out blood and water”*. Thus there was an escape of watery fluid from the sac surrounding the heart and blood from the interior of the heart. We, therefore, have rather conclusive post-mortem evidence that Our Lord died, not the usual crucifixion death by suffocation, but of heart failure due to shock and constriction of the heart by fluid in the pericardium.

Thus we have seen a glimpse of the epitome of evil which man can exhibit toward man - and toward God. This is not a pretty sight and is apt to leave us despondent and depressed. How grateful we can be that we have a sequel: A glimpse of the infinite mercy of God toward man - the miracle of the atonement and the expectation of Easter morning!