

# Between the Backbone and the Ribs: A Medical Phenomenon Revealed in the Qur'an

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### Abstract

This paper is a detailed study of Qur'anic verses 5 to 7 of sūra (chapter) *al-Ṭāriq*. They describe how man "is created from a gushing fluid. That issued from between the backbone and the ribs." The author will explain how he believes that the Qur'an has indicated accurately, in a subtle manner, the anatomical regions involved and the physiological mechanisms that operate in the process of expulsion of the seminal fluid.

**Key words:** Islamic perspective, male sexual function, seminal fluid, vertebral column

The Glorious Qur'an describes the creation of man in numerous passages such as the following:

مِنْ أَيِّ شَيْءٍ خَلَقَهُ مِنْ نُّطْفَةٍ خَلَقَهُ فَقَدَرَهُ

From what stuff hath He created him? From a sperm-drop and then mouldeth him in due proportion.<sup>1</sup>

The author has explained in previous articles medical facts regarding conception, growth of the fetus, and delivery with references to the Glorious Qur'an.<sup>2,3</sup> This article discusses the mystery hidden in the Qur'an concerning another aspect of reproductive physiology, that is the expulsion of the seminal fluid, which is mentioned in Qur'anic verses 5 to

7 of sūra (chapter) *al-Ṭāriq*, which is translated as night-visitant or morning star. Like many other early Makkan sūras, this sūra contains short, lyrical, fast-moving but hard-hitting verses against the unbelievers to assert the uncompromising stand towards oneness of Allah, His unquestionable power and His never-ending authority over His creations. The Qur'an says:

فَلْيَنْظُرِ الْإِنْسَانُ مِمَّ خُلِقَ خُلِقَ مِنْ مَّاءٍ دَافِقٍ  
يَخْرُجُ مِنْ بَيْنِ الصُّلْبِ وَالتَّرَائِبِ

Now let man but think from what he is created? He is created from a gushing fluid. That issued from between *al-ṣulb* and *al-tarā'ib*.<sup>4</sup>

In the context of this article, two points should be made about the above verses. The first is that the seminal fluid, depicted as a gushing fluid, is expelled under pressure. There are two other verses that

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reinforce this phenomenon:

Was he (man) not a *nutfa* (sperm-drop) which gushed forth?<sup>5</sup>

أَلَمْ يَكُنْ نُطْفَةً مِّن مَّنِيِّ يُمْنِي

[Does the denier of God not see] that He did create the pairs male and female from a sperm-drop which poureth forth?<sup>6</sup>

وَأَنَّهُ خَلَقَ الرِّجَالَ الذَّكَرَ وَالْأُنثَىٰ مِن نُّطْفَةٍ إِذَا تُمْنِي

The second is that the fluid is issued from between the backbone and the ribs. How shall we interpret this important aspect of the sexual intercourse? To infer that the seminal fluid comes from between the backbone and the ribs is biologically incorrect, for we know where the reproductive organs of the male (as well as the female) are and we also know their specific functions. But we should try to discover what is that present in between the backbone and the ribs that causes the seminal fluid to be issued or expelled. In order to accomplish this, we must recollect the anatomy and the physiology of the spinal cord, vertebral column, and the autonomic nervous system.

### Phases of Sexual Intercourse

Masters and Johnson divide the human sexual response into four phases: the excitement phase, the plateau phase, the climax or orgasm, and the resolution phase.<sup>7</sup>

Sexual excitement begins with psychic stimuli such as anticipation, memory, visual sensation, or with local physical stimulation. In the male, parasympathetic impulses pass from the sacral segment of spinal cord through the *nervi erigentes* to the penis, causing dilation of the arteries, higher blood flow, and elevated pressure in the erectile tissue of the penis resulting in engorgement and erection. In the female, effects of vasodilation on the clitoris and the vagina are mediated through the same sacral segment. This physiological status is maintained in the plateau phase. At the peak sexual

excitement (orgasm) two phenomena occur: emission and ejaculation.<sup>8</sup> When sexual stimulation becomes extremely intense, the reflex centers in the spinal cord begin to send nerve signals or emit rhythmic sympathetic impulses that leave the cord at lumbar segments L1, L2 and pass to the genitalia to initiate emission. Emission begins with peristaltic contraction in the ducts of the testes, epididymis, vas deferens, and ejaculatory ducts causing propulsion of the sperm into the prostatic part of urethra. Simultaneously secretions from the seminal vesicles, prostate, and bulbourethral glands (Cowper's gland) mix with the sperms to form the semen or seminal fluid.

Next, the last wave of reflex nervous mechanism takes place. Rhythmic parasympathetic impulses from the sacral segment S1, S2 leave the cord via the pudendal nerve and cause the internal genital organs and the perineal skeletal muscles (ischiocavernosus and bulbocavernosus muscles) that encase the base of the erectile tissue to contract. The base of the penis is compressed, resulting in the expulsion or ejaculation or forcing out of the semen under tremendous pressure from the prostatic urethra to the deep recesses of the vagina. The pressure of the "gushing fluid" is so great that it can be expelled 12-24 cm away from the urethral meatus outside the vagina.<sup>7</sup>

The spinal cord ends at the level between first and second lumbar vertebrae. The spinal segments, L1, L2 and S1, S2 are enclosed within the first and second lumbar vertebrae, which are below the thoracic ones where the ribs meet the backbone. Thus we have seen that the nerve signals to expel the semen or the "gushing fluid" is issued from the lumbar and sacral segments of the spinal cord, which lie below the level of the 12th ribs on either side and above L3 vertebra or "between the backbone and the ribs," as the Qur'an says. Great pressure is mounted through reflex mechanism for the seminal fluid to travel a distance of 20 cm through the urethra, which is the common passage for urine and semen ("the base fluid") in the males. The mechanism works so well that during ejaculation the internal urethral sphincter contracts preventing the urine from entering the urethra and preventing back flow (reflux) of the semen into the bladder. Female orgasm also occurs through the same nervous pathway. Thereafter the resolution or pre-excitation sta-

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tus returns.

Incidentally, the testes and ovaries are intraabdominal organs in the fetus and lie on its posterior abdominal wall at the level of the upper lumbar vertebrae. As explained before, herein lie the spinal centers, which mediate emission and ejaculation. The testes descend to the scrotum about two months before delivery because the temperature outside the body is more conducive for the viability of the sperms.

### **Alternate Interpretation of *al-Tarā'ib* as Female Ribs Unlikely**

Another translation for the Glorious Qur'an, Chapter 86, Verses 6-7 reads:

He is created from a gushing fluid. That issued from between the backbone (of the male) and the ribs (of the female).<sup>9</sup>

This translation is not tenable because the Qur'an refers to and medical physiology confirms that the "gushing fluid" is male seminal fluid.

### **Conclusion**

The author would like to emphasize in no uncertain terms that his attempt is an interpretation and categorically denies that this is the only possible or the only correct meaning of the the Glorious Qur'an, Chapter 86, Verses 5-7. The Qur'an is Allah's speech, and only He knows the absolute meaning of His revelations. But we should strive to search and discover the hidden pearls, especially the scientific ones, scattered within its pages. The Qur'an is a marvelous book of guidance, an ever-flowing fountain of knowl-

edge and, as Pickthall praises the Almighty's irreproducible Criterion (Furqan) in a splendid musical metaphor, an "inimitable symphony, the very sounds of which move men to tears and ecstasy."<sup>10</sup>

In this article I explained in detail the mechanism of ejaculation of the seminal fluid and how the nerve impulses are discharged from the lumbar and sacral segments of the spinal cord that lie within the first two lumbar vertebrae, which are below the 12th ribs and above the remaining lumbar and sacral vertebrae (backbone). As the Qur'an uniquely summarizes it, the nerve impulses are discharged "between the backbone and the ribs."

### **References**

1. The Glorious Qur'an, Chapter 80, Verses 18-19.
2. Mohamed KB. The Qur'an and human reproductive physiology. Muslim World League J. 2003;31:45-8.
3. Mohamed KB. "Creation after creation in three veils of darkness": the hidden biological wonders in al-Qu'rān. J Islam Med Assoc. 1999;31:39-43. <http://dx.doi.org/10.5915/31-1-5422>
4. The Glorious Qur'an, Chapter 86, Verses 5-7.
5. The Glorious Qur'an, Chapter 75, Verse 37.
6. The Glorious Qur'an, Chapter 53, Verses 45-6.
7. Masters WH, Johnson VE. Human sexual response. New York: Bantam Books; 1980.
8. Ganong WF. Review of medical physiology. New York: McGraw Hill; 2005.
9. Tafsir Pemimpinan Ar Rahman kepada Pengertian al-Quran. Kuala Lumpur: Darul Fiqr; 1998.
10. Pickthall MM. The meaning of the Glorious Qur'an. An explanatory translation. New York: The New American Library.