

The Definitive Response to the Claim Alleging a Contradiction Between the Qur'an's Description in Quran (23:14) of the Stages of Human Creation from the Chewed-Like Lump "mudghah" to Bones and Their Enclothing with Flesh, and Embryology in Light of Modern Science: Presentation of the Claim and the Scientific Response to It

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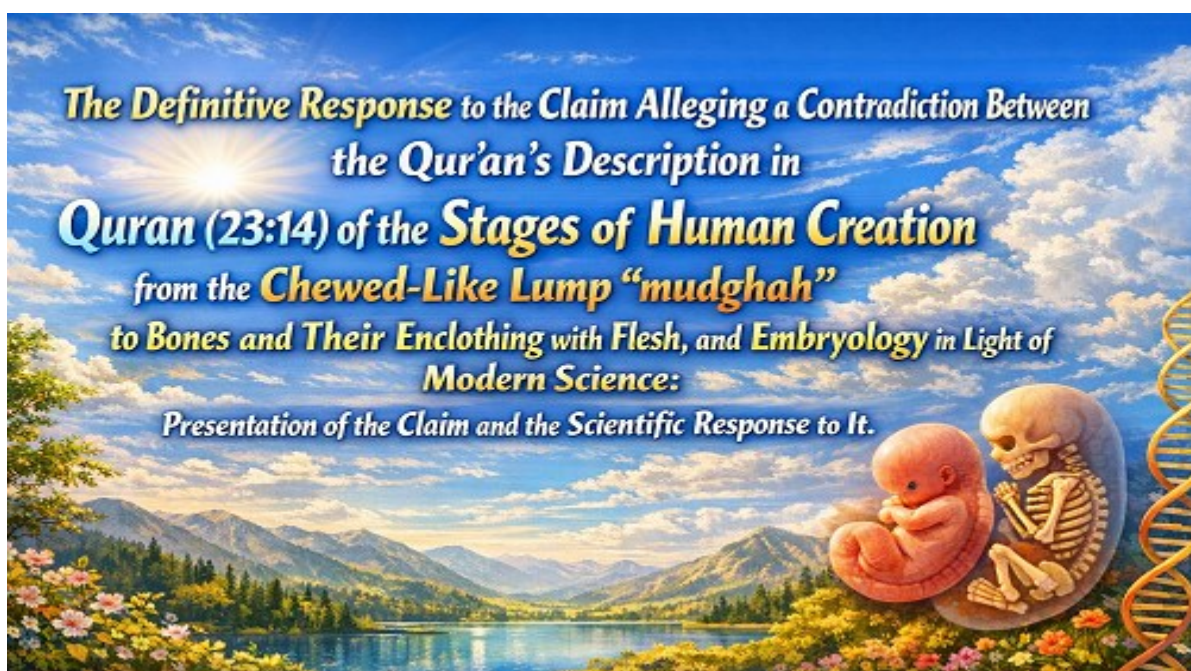
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Anti-Islamic Claims Related to Surat al-Mu'minun, Quran (23:12-14)

Some critics allege that the statement of the Most High, Allah "subhanahu wa ta'ala", in Surat al-Mu'minun, Quran (23:12-14), contains a scientific error, because they understand His statement, {Then We made the chewed-like lump bones and then clothed the bones with flesh}, to mean that the embryo first becomes a complete, solid bony skeleton, and only after that do the muscles and flesh form upon it.

They then build upon this understanding the claim of a contradiction between the Qur'an and modern embryology. This claim is fundamentally based on an inaccurate reading of the text and on a simplified and distorted conception of the nature of embryonic development itself.



Those opposed to Islam also make the incorrect foundational assumption that the Qur'anic verses in Surat al-Mu'minun, Quran (23:12-14), state that Allah began the creation of the human being, or the embryo in its mother's womb, as a complete solid skeleton first, and then clothed it with flesh second. Accordingly, those opposed to Islam demand from Muslims an ultrasound image or a radiographic image of an embryo with a solid bony skeleton in its mother's womb as proof of the truthfulness of the Qur'an.

Those opposed to Islam further imagine that, if a woman were to miscarry, a solid bony skeleton of an embryo should fall to the ground. All of these are false assumptions based essentially on a confused understanding of the wording of the noble verses and of the meaning of the word bones in the verse, even though cartilage, which is the first stage in the skeletal formation of bones, is neither skin nor flesh, but rather represents the initial form from which many bones gradually proceed to ossification.

The Most High, Allah "subhanahu wa ta'ala", said in Surat al-Mu'minun, Quran (23:12-14):

“And indeed, We created humankind from an extract of clay, then placed each ‘human’ as a sperm-drop in a secure place, then We developed the drop into a clinging clot, then developed the clot into a lump ‘of flesh’, then developed the lump into bones, then clothed the bones with flesh, then We brought it into being as a new creation. So Blessed is Allah, the Best of Creators.” Quran (23:12-14).

These anti-Islamic claims concerning the Noble Qur'an in Surat al-Mu'minun, Quran (23:12-14), are specified in the following sequence:

- (A)** The claim that the Qur'an states that the embryo first becomes a complete, solid bony skeleton, and that only after that do the muscles and flesh form upon it.
- (B)** The claim that His exalted statement {Then We made the lump into bones, and We clothed the bones with flesh} means that there is a strict and complete temporal separation between the formation of the bones and the formation of the flesh.
- (C)** The claim that the verses describe the bones as appearing all at once in their final, complete, solid form.
- (D)** The claim that the Qur'an speaks of a solid bony skeleton entirely independent of the rest of the tissues at an early stage of the embryo.

(E) The claim that the Qur'anic text necessitates the possibility of seeing a fetus in its mother's womb in the form of a complete solid bony skeleton before flesh forms upon it.

(F) The claim that the truthfulness of the verse can only be established by the existence of an ultrasound image or an X-ray image of a fetus appearing as a bare solid bony skeleton which is then afterwards clothed with flesh.

(G) The claim that, in the case of miscarriage, a solid bony skeleton of the fetus should fall to the ground if the apparent meaning of the verse were correct according to their understanding.

(H) The claim that the word {bones} cannot include the initial cartilaginous structural stage, and that it indicates nothing other than complete solid bone.

(I) The claim that the verses contradict modern embryology because they assume that science denies any prior structural skeletal precedence before the formation of flesh.

(J) The claim that the sequence in the verse is a literal moment-by-moment anatomical sequence, not a gradual and general description of the stages of creation.

The Muslim Response:

We begin first in our response with what the Noble Qur'an states and affirms, and with what the Noble Qur'an does not state and does not affirm in Surat al-Mu'minun, Quran (23:12-14).

What the Noble Qur'an states in Surat al-Mu'minun, Quran (23:12-14)

- (a) The Qur'an mentions gradual stages in the creation of the human being.
- (b) The Qur'an affirms that there is a transition from the sperm-drop "nutfah" to the clinging substance "alaqah", then to the chewed-like lump "mudghah".
- (c) The Qur'an affirms that after the stage of the chewed-like lump "mudghah" there is a phase connected to bones.
- (d) The Qur'an affirms that after that there is a clothing of the bones with flesh.
- (e) The Qur'an describes creation here in a general, ordered, and gradual manner.

(f) The Qur'an sets out the general order in creation, not the precise laboratory detail of every moment.

(g) The Qur'an indicates that the skeletal structure enters the stage of formation before its clothing with flesh is completed.

(h) The Qur'an does not preclude this formation from being gradual.

(i) The Qur'an does not preclude this skeletal phase, at its beginning, from being an initial cartilaginous skeletal form, which then develops further.

(j) The Qur'an affirms at the end of these stages: {Then We produced him as another creation}, that is, there is a transition to another stage after those stages.

What the Noble Qur'an Does Not Say in Surah al-Mu'minun, Quran (23: 12-14)

(a) The Qur'an does not say that the embryo begins its creation as a solid skeletal structure with all its parts fully formed.

(b) The Qur'an does not say that the bones appear suddenly, all at once, in their final complete form.

(c) The Qur'an does not say that what is meant here by bones must necessarily be only the final solid bone, without any prior preliminary stage before it.

(d) The Qur'an does not say that there is an absolute and sharp temporal separation between the formation of the skeletal structure and the formation of flesh.

(e) The Qur'an does not say that flesh begins only after the cartilaginous or bony framework has reached full completion.

(f) The Qur'an does not say that, at some point, the embryo is a solid bony skeleton stripped of flesh that can be imaged as the objector imagines.

(g) The Qur'an does not say that the description given is a detailed anatomical description moment by moment.

(h) The Qur'an does not say that all parts of the skeletal framework are formed in the same way or at the same time.

(i) The Qur'an does not say that the formation of the muscles and surrounding tissues occurs in complete isolation from the development of the skeletal structure.

(j) The Qur'an does not say what the objector imagines, namely that miscarriage in the early stages would mean the falling of a complete solid bony skeleton.

The precise scientific answer is that embryology does not state that bones begin suddenly as a complete, solid skeletal structure independent of the rest of the tissues, and that the muscles only arrive afterwards in an entirely separate stage. Rather, what the medical literature establishes is that the formation of most of the bones of the body occurs through a prior cartilaginous model, and this model then gradually transforms into bone in a process known as endochondral ossification (Breeland et al., 2023).

The references state that this process begins from an embryonic tissue origin, then the cells differentiate, then the cartilaginous model is formed, and only after that do the stages of ossification, calcification, and the formation of ossification centres begin (Breeland et al., 2023). All of this indicates that the skeletal structure enters the stage of formation first in the form of an initial cartilaginous skeletal framework, rather than appearing all at once in a complete final form.

Specialised references on limb development also confirm that cartilage formation begins first, followed by ossification. In their presentation of upper limb development, the researchers state that the principal events in limb morphogenesis occur between the fourth and eighth weeks, that cartilage formation begins approximately in the fifth week, and that ossification then begins during the sixth and seventh weeks, with maturation continuing thereafter (Al-Qattan et al., 2009).

Thus, the scientific picture is not: fully formed bones first, then flesh later. Rather, it is: an initial skeletal structure that takes shape and advances, while other tissues develop with it and around it within an organised and overlapping embryonic process. This accords with the general meaning of the verse, and does not contradict it.

The same sources also show that muscle differentiation begins very early during this embryonic stage, and that bones, joints, ligaments, and muscles do not develop in complete isolation from one another, but rather within an interconnected developmental context (Al-Qattan et al., 2009). From this, the error of the objector's demand for a "picture" of a complete solid bony skeleton that is then clothed with flesh afterwards becomes clear, because this demand is based on a rigid and simplistic conception that does not reflect the reality of embryonic development as described in embryology textbooks.

The Qur'an does not affirm this conception at all. Rather, it affirms the advancement of the stage of skeletal formation and then its clothing with flesh, and this is a precise and controlled general expression that describes what predominates in the course of development, not an anatomical drawing moment by moment.

It is important here to distinguish between the beginning of something and its final completion. Thus, Allah Exalted statement: "Then We created the chewed-like lump into bones" does not necessarily mean that, from that very moment, the bone had already become the final solid form known after the completion of pregnancy. Rather, it indicates the transition into the stage of skeletal formation.

This is entirely consistent with what the medical references affirm, namely, that bones pass through successive stages of formation, maturation, and transformation, and that many of the body's bones begin through a cartilaginous model and then gradually develop into bone (Breeland et al., 2023). Thus, the objection does not arise from the text itself, but from attributing to the text something that it does not say.

Very recent studies further clarify this meaning, as they describe embryonic skeletal development in the human being as an organised dynamic programme that includes the maturation of both cartilage and bone together, and they confirm that early human skeletal development is not a simple static event, but rather a graduated network of cellular and tissue differentiation and maturation (To et al., 2024).

They also state that some bones are formed through cartilaginous ossification, while other bones, such as parts of the skull, are formed through membranous ossification (To et al., 2024). This shows that the Qur'anic text came in a comprehensive general form that describes the overall course of creation, not the precise anatomical detail of each individual bone on its own. This is part of the perfection of its eloquence and precision, not a point of objection.

More precisely, scientifically speaking, what is meant is not a complete and rigid sequence in which the cartilaginous framework forms first and only after that has entirely finished does the flesh begin. Rather, what embryology establishes is that the cartilaginous skeletal structure precedes in terms of origin and organisation, and ossification then begins later, with a clear temporal overlap in the growth of the muscles and surrounding tissues.

That is, there is a prior cartilaginous construction as a skeletal model, but the envelopment with flesh is not a wholly separate stage occurring only after the

cartilage has been fully completed; rather, it occurs with a degree of simultaneity and overlap during embryonic development (Breeland et al., 2023).

To state it more clearly: in many bones, especially the bones of the limbs, the process begins with a cartilaginous model that represents the shape of the future bone, and this model then gradually turns into bone through the process of endochondral ossification. At the same time, muscle cells migrate into the developing limb and differentiate early.

Thus, the embryonic picture is not: “a complete cartilaginous skeleton on its own first, followed by flesh at a separate later time,” but rather: progress in skeletal formation accompanied by the formation of muscles around it (Breeland et al., 2023).

In upper limb development specifically, the references state that cartilaginous formation begins at approximately the fifth week, then ossification begins during the sixth and seventh weeks, and muscle development also begins early within this same stage (Al-Qattan et al., 2009). This confirms that the precise scientific description is: structural precedence with partial synchronisation, not a complete separation between the two stages.

Accordingly, the brief answer to this point is as follows: modern embryology does not maintain that flesh comes only after the cartilaginous framework has become fully complete, nor does it maintain a purely simultaneous temporal correspondence without any prior structural precedence. Rather, it maintains that the cartilaginous model comes first in origin, and that the covering with flesh then occurs with temporal overlap and relative simultaneity during development. Accordingly, the claim of contradiction between the Qur'an and science in this verse is a false claim.

This is because the Qur'an did not state that the embryo first becomes a complete solid bony skeleton devoid of flesh, and that flesh is then added to it afterwards in an entirely separate stage. Rather, it set out the general order in embryonic formation: the transition of the chewed-like lump "mudghah" to the stage of bony formation, then the clothing of that formation with flesh.

This meaning does not contradict modern embryology. On the contrary, it is consistent with what authoritative references establish regarding the prior existence of the cartilaginous skeletal model, followed by the commencement of ossification, together with the differentiation of the muscles and surrounding tissues during this process (Breeland et al., 2023; Al-Qattan et al., 2009).

The Conclusive Summary

The flaw lies not in the verse, but rather in the hasty reading of it. The verse does not describe a complete, solid skeletal structure remaining for a period without flesh. Rather, it describes the general progression of creation in a concise and precise manner: the skeletal framework is formed first, then it is clothed with flesh within a successive and overlapping embryonic process.

This is, in essence, what modern embryology affirms (Breeland et al., 2023; Al-Qattan et al., 2009; To et al., 2024). Accordingly, the claim of a scientific error is nothing but an illusion arising from misunderstanding, not from the reality of the Qur'anic text nor from the facts of science.

Allah Knows Best

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