

Congenital Anomalies: An Analysis of a Myth on Sumerian Clay Tablets

Konjenital Anomaliler: Kil Tablette Yer Alan Bir Sümer Mitolojisinin Analizi

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ABSTRACT Objective: In this study, the 4th, 5th, 6th and 7th babies born with different anomalies that had been described in the Sumerian myth of “Enki and Ninnah: Creation of Man”, have been evaluated. **Material and Methods:** The myth was evaluated with the help of archeological sources, online museum catalogues, reviews written on this subject and getting opinions of various experts. **Results:** In the first part of the myth, a feast given by the gods to celebrate the creation of the perfect man had been described. In the second part, the Goddess Ninnah, had become jealous of Enki's success and created 6 defective, crippled babies out of mud. As Enki had got angry with Ninnah's act, he had created the 7th defective baby. Based on the descriptions of the babies in the myth, the 4th one had urinary incontinence, the 5th one was an infertile girl, the 6th one had ambiguous genitalia, and the 7th one had probably Wolf-Hirschhorn syndrome. The creations of these seven babies were done during above-mentioned feast under the influence of alcohol. To the best of our knowledge, this myth presented on the Sumerian clay tablets has an importance as they are the first written documents describing urinary incontinence, infertility and ambiguous genitalia. **Conclusion:** It can be speculated that, Sumerians, who had pioneered various fields of science and technology might have observed the teratogenic effects of parental use of alcohol and wanted to send a message to the following generations by this myth.

Key Words: Congenital abnormalities; fetal alcohol syndrome; civilization

ÖZET Amaç: Çalışmamızda; “Enki ve Ninnah: İnsanın yaratılışı” adıyla bilinen Sümer mitinde sözü geçen ve çeşitli anomalilerle doğan 4., 5., 6. ve 7. bebekler incelenmiştir. **Gereç ve Yöntemler:** Mit; çeşitli arkeolojik kaynaklar, online müze katalogları, konuyla ilgili derlemeler, çeşitli uzman görüş ve yardımları ile araştırılmıştır. **Bulgular:** Mitin ilk bölümünde ilk mükemmel insanın yaratılışını kutlamak için tanrılara verilen ziyafet, ikinci bölümde ise Enki'nin başarısını kıskanan tanrıça Ninnah'ın çamurdan 6 anomalili bebeği yaratması ve buna öfkelenen Enki'nin 7. anomalili bebeği yaratması işlenmektedir. Bu bebeklerden 4. sünde üriner inkontinans, 5. sünde infertil bir kız, 6. sında ambiguus genitalya ve 7. sünde muhtemel Wolf-Hirschhorn olgusu tarif edilmektedir. Mitin ikinci kısmı dikkatle incelendiğinde 7 anomalili bebeğin bol alkol tüketimi olan bir ziyafet sırasında yaratıldıkları dikkati çekmektedir. Bildiğimiz kadarıyla, bu mitin yer aldığı kil tablet üriner inkontinans, infertilite, ambiguus genitalyadan bahsedilen ilk yazılı kaynak olması açısından önem taşımaktadır. **Sonuç:** Bilim ve teknoloji alanında sayısız ilke öncülük eden Sümerler, anne ve babanın alkol kullanımının teratojenik etkilerinin olabileceğini fark etmiş ve bu mit aracılığıyla bizlere mesaj vermek istemiş olabilirler.

Anahtar Kelimeler: Konjenital anomaliler; fetal alkol sendromu; medeniyet

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Sumerians are a civilization that lived in Mesopotamia between the years 3500-2000 B.C., with numerous inventions like cuneiform writing, the oldest known law system, as well as the city-state, the whe-

el and agriculture with regular irrigation. They gave the first samples of literature with the Myth of Gilgamesh and even the oldest writing in medicine.

In myth of “Enki and Nimnah: Creation of Man”, six handicapped individuals were created by Nimnah and another one named “Umul” was created by Enki after getting annoyed by Nimnah. These seven individuals have features that are particularly interesting from a medical perspective. This paper will speculate on the possible diagnoses of the 4th, 5th and 6th individuals created by Nimnah and the last one created by Enki, by summarizing the myth and interpreting the anomalies of some of them from the view of pediatric surgery and suggesting a likely etiology for these congenital anomalies described in this myth.

THE MYTH AND ITS' ANALYSIS FROM THE MEDICAL PERSPECTIVE

The first studies on the Sumerian Literature began with the translation of Sumerian texts in British Museum by Henry Rawlison ve George Smith in 1875. There are about six thousand known and identified “literary” clay tablets and pieces in museums and tablet collections worldwide. Although the originals are preserved in distant places like Philadelphia, Istanbul, London and Bagdad, most text pieces were connected by researchers. About twenty myths, nine epic narrations, more than two hundred works of art like anthems, proverbs and song lyrics were identified either partially or completely.¹

The myth of “Enki and Nimnah: Creation of Man” is one of the identified myths and its content originates from a tablet, one part of which is in the Nippur Collection of University of Pennsylvania Museum and in the Museum of the Louvre (Figure 1).

In the present study, the myth was investigated with the help of archeologic sources, online museum catalogs, reviews written on this matter and opinions of various experts. In the some parts of text, the use of quotation marks indicates the fragmentary words on the clay tablets.

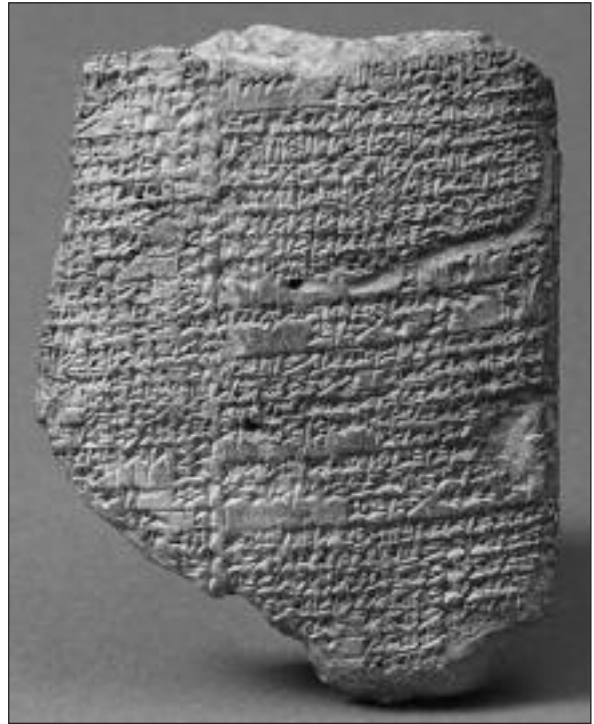


FIGURE 1: One part of the tablet presenting the myth, from the Museum of Louvre.

Online available (http://cartelen.louvre.fr/cartelen/visite?srv=car_not_frame&idNotice=24697) (07-04-2009)

If we want to summarize the myth of “Enki and Nimnah: Creation of Man”; Enki arranges a feast for gods to celebrate the creation of the first sample of perfect man. During this feast he is applauded as the god of great works and extended comprehension and is sublimated. Nimnah who is grieved and somewhat enebriated after drinking wine is eager to denigrate the Enki’s work, acts arbitrarily with caprice and creates six handicapped humans. Although Enki is also drunk, he challenges Ninmah and finds appropriate and useful occupation for each handicapped individual. After this, Enki who is mad at Nimnah’s insistent and quarrelsome competition, creates an individual, called Umul, who is fatally disabled. He challenges Nimnah to find a useful occupation for this individual like he did for other six individuals. Nimnah cannot achieve this, and this helpless Umul causes Nimnah to be humiliated by accep-

ting his superiority. The fatal competition between Enki and Nimnah is the dominant pattern in this myth.²

When we examine the handicapped individuals in this myth, we would like to point out some of the interesting features and disabilities in some of them from the view of pediatric surgery.

The six individuals created by Nimnah were described in the myth. Here only the description of the first three individuals is given as stated in the English translation of the clay tablets, without additional comments. The first tablet states: “Nimnah took clay from the top of the abzu in her hand and she fashioned from it first a man who could not bend his outstretched weak hands”. From the second, “she fashioned one who turned back... the light, a man with constantly opened eyes” is written. From the third, “she fashioned one with both feet broken, one with paralysed feet”.²

From the fourth: “She fashioned one who could not hold back his urine”. This description in medical pathology is interpreted as “urinary incontinence”.² Urinary incontinence is the leakage of urine due to involuntary reversal of the gradient. Some possible causes of urinary incontinence in a newborn were listed in Table 1.

From the fifth description: “She made a woman who cannot give birth”.² As we do not have any knowledge about the chromosomal sex, prob-

| Anatomic | Neurogenic |
|--|---|
| <ul style="list-style-type: none"> • Extravesical urinary drainage of ectopic ureters • Obstruction -Posterior urethral –valves -Prolapsing ureterocele -Anterior urethral diverticulum -Cowper’s duct cyst • Developmental anomalies -Exstrophy - Epispadias | <ul style="list-style-type: none"> • Myelodysplasia • Spinal dysraphisms -Lipoma or lipomeningocele -Diastomyelia -Dermoid cyst -Tethered cord • Spinal tumors |

| 46, XX | 46,XY |
|--|---|
| <ul style="list-style-type: none"> • Anatomic abnormalities -Mullerian dysgenesis -Vaginal agenesis -Transverse vaginal septum • Hypothalamic defects -Defects of LHRH transport -Defects of LHRH pulse production -Kallmann’s syndrome • Congenital pituitary dysfunction • Hypergonadotropic hypogonadism -Steroid enzyme defects -Gonadal dysgenesis (pure gonadal dysgenesis, Turner’s sendrome, Turner variants) -Mixed gonadal dysgenesis -Testicular regression syndrome -True hermaphroditism -Ovarian resistance sendrome (Savage’s syndrome) | <ul style="list-style-type: none"> • Testicular feminization • Pure gonadal dysgenesis • Anorchia • Testicular steroid enzyme defects |

able causes of infertility in a newborn girl or a female appearing newborn are listed in Table 2.

From the sixth description: “She made one who has no male organ, who has no female organ”.² This description may be suggest the possibility of ambiguous genitalia, absence of penis and scrotum in a boy or absence of vaginal opening and labia majora in a girl. Newborns with 46,XX or 46,XY can be explained by some clinical features outlined in Table 3. In babies with ambiguous genitalia, correct and early diagnosis is important for survival, psychological development and genetic transmission.³

The seventh creature created by Enki was Umul. Umul was described as follows “its head was afflicted, its place of... was afflicted, its eyes were afflicted, its neck was afflicted. It could hardly breathe, its ribs were shaky, its lungs were afflicted, its heart was afflicted, its bowels were afflicted. With its hand and its lolling head it could not put bread into its mouth; its spine and head were dislocated. The weak hips and the shaky feet could not carry... it on the field-Enki fashioned it in this

TABLE 3: Possible causes of absence of vagina in a newborn girl and absence of penis in a newborn boy.

| 46,XX | 46,XY |
|--|--------------------------------------|
| • Absence or anomalous development of vagina, uterus, and fallopian tubes (Mayer-Rokitansky-Küster-Hauser syndrome) | • Aphallia (46,XX-XY mosaic, 46, XY) |
| • Failure of recanalization of the vaginal plate | • Penoscrotal transposition |
| • Primary failure of the müllerian anlage to reach the urogenital sinus | • Penoscrotal hypospadias |
| • Female pseudohermafroditizm | • Intrauterine penil amputation |
| - Endocrine causes (male pseudohermafroditizm, Laron syndrome, panhipopitiuarizm, isolated growth hormone deficiency, hypogonadotropik hypogonadizm, hyper gonadotropik hypogonadizm, fetal exposure to exogenous progestins during pregnancy) | • Microphallus |
| - Nonendocrine causes (Noonan syndrome, Smith- Lemli-Opitz syndrome.....etc.) | |

way” on clay tablets.² These combined findings evoke the possibility of many congenital syndromes, and in particular, of Wolf-Hirschhorn Syndrome (WHS) in which there are head, eye, cardiac, skeletal system, intestinal (malrotation), chest and lung anomalies and hypotonia.⁴

The theme of the first part of the myth was a feast starting the unfortunate and unavoidable events. The second part of the myth was a huge competition, and the consecutive creations of seven defective individuals by Enki and Nimnah, both under the influence of alcohol.² As known, alcohol is a teratogen.⁵⁻⁷ The teratogenic effects of alcohol can also induce fetal malformations both at the earliest, as well as at the lowest level of intake. The effectiveness spreads differentially over the whole process of reproduction and affects the developing fetus in varying degrees, in both extent and severity which is dependant on the dosage and timing.⁸ Fetal alcohol syndrome (FAS) refers to a pattern of anomalies occurring in children born to alcoholic women. The most common characteristics of children born with FAS are growth, craniofacial, musculoskeletal, cardiac, nervous system, genito-urinary abnormalities and neuro-developmental delay or mental deficiency as well.⁸ Genital abnormalities are undescended

testes and malformations of the lower wall of the urethra in males and hypoplastic labia in females. Minor kidney abnormalities have also been detected.⁹

CONCLUSION

The myth, especially the second part, of our interest, may be targeted to answer a question that may have come to the mind of Sumerians, namely, what is the cause of congenital birth defects. This myth may have had a bearing on whether a lesson was to be derived regarding the prevention of congenital defects. One can speculate whether Sumerians, who pioneered in countless fields of science and technology might have knowledge about congenital deformities and their causes, and may be aimed to express the teratogenic effects of maternal and paternal usage of alcohol in this myth.

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