

## عنوان مقاله:

Correlation of Uric Acid, Urea, Ammonia and Creatinine of Seminal Plasma With Semen Parameters and Fertilization Rate in Infertile Couples

## محل انتشار:

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## خلاصه مقاله:

Background: Ammonia, urea, uric acid, and creatinine are the major non-protein nitrogenous compounds (NPNs). It is reported that the concentration of NPNs in the seminal plasma of normal and infertile individuals is different and sperm is affected by NPNs. Objectives: The aim of this study was to determine the quantities of ammonia, urea, uric acid, and creatinine in seminal plasma and the correlation of these compounds with the fertilization rate after an intracytoplasmic sperm injection (ICSI). Methods: The levels of ammonia, urea, uric acid, and creatinine were determined in seminal plasma collected from 50 men. The ammonia and urea were determined by L-glutamate dehydrogenase and diacetyl monoxime method, respectively. Uric acid and creatinine were detected by enzymatic method and Jaffe reaction, respectively. The fertilization was evaluated around 16–18 hours post-ICSI on the appearance of 2 pronuclei and 2 polar bodies. The fertilization rate was calculated by the number of fertilized oocytes per the number of oocytes injected. Results: There was a significant negative correlation between seminal ammonia and sperm motility ( $P < 0.05$ ). Urea and creatinine had a negative correlation with respect to the sperm count ( $P < 0.05$ ). In addition, there was an inverse correlation between urea and uric acid of seminal plasma and sperm morphology ( $P < 0.05$ ). A significant negative correlation was found between seminal uric acid and urea with respect to the percentage of the fertilization rate ( $P < 0.05$ ). Conclusions: The findings of the present study showed that urea and uric acid in seminal plasma have a negative impact on the fertilization rate.

## کلمات کلیدی:

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