

**EFFECT OF UREA SUPPLEMENTATION IN MEDIA IN  
VITRO MATURATION BOVINE OOCYTE TO  
Bax AND Bcl-2 EXPRESSION ALONG WITH  
Bax/Bcl-2 RATIO**

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**ABSTRACT**

Blood urea nitrogen (BUN) is high protein content in feed. The high level of BUN can affect bovine reproduction system including oocytes damage. The aims of this study is to determine urea as a cause of oocyte maturation damage and see the expression of Bax, Bcl-2 and the Bax/Bcl-2 ratio as a apoptotic indicator.

The results showed that the Bax expression data of each study group was (P0) of  $22.31 \pm 21.15$ , (P1) of  $42.31 \pm 12.33$  and (P2)  $56.66 \pm 25.17$ . It shows that Bax expression between (P0) compared with (P1) there was no significant difference ( $\bar{p} > 0.05$ ) but (P0) compared with (P2) were significant difference. Bcl-2 expression were (P0)  $27.5 \pm 32.21$ , (P1)  $52.85 \pm 31.94$  and (P2)  $89.58 \pm 16.61$ . It showed that between the (P0) and (P1) there were no significant differences ( $\bar{p} > 0.05$ ), whereas between (P0) and (P1) compared to the P2 there was significant difference ( $\bar{p} < 0.05$ ). While the Bax/Bcl-2 ratio is (P0)  $0.81 \pm 0.66$ , (P1)  $0.81 \pm 0.38$  and (P2)  $0.63 \pm 1.51$ . It showed that Bax / Bcl-2 ratio between (P0) and (P1) there were no significant differences ( $\bar{p} > 0.05$ ), whereas between (P0) and (P1) compared to (P2) there were differences significant ( $\bar{p} < 0.05$ ). The result showed that urea supplementation of 40 mg/dl increased the expression of Bax and Bcl-2 and reduced the expression of the Bax/Bcl-2 ratio.

Keyword : Urea, In Vitro maturation (IVM), Bax/Bcl-2 Ratio