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Title : Biochemical changes in media and their supplements used for oocytes in vitro maturation, cleavage and sperm capacitation in Egyptian buffalo.

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Abstract

Fetal calf serum (FCS) is an essential protein supplement for media used for in vitro fertilization (IVF). However, this serum is not specific for buffalo oocytes, so we tried to substitute this serum by buffalo estrus serum (BoES). Oocytes were matured in vitro using either TCM-199 or Ham's F-10 supplemented with either 10% FCS or 10% BoES for 24 hours. The biochemical analysis of media after culturing of oocytes and sperm capacitation are total protein, Ca^{2+} , P_i , total lipid, cholesterol, triacylglycerol, HDL, LDL and free amino acids. TCM-199 is best than Ham's F-10 in maturation. The best media for sperm capacitation is TALP supplemented with both heparin and caffeine. The best biochemical composition of media for in vitro fertilization and embryo culturing is TCM-199 supplemented with different stages of BoES.

جامعة القاهرة

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قسم الكيمياء الحيوية وكيمياء التغذية

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عنوان الرسالة : التغيرات البيوكيميائية في الاوساط وازاداتها في نضوج البويضات وانقسامها وتنشيط الحيوانات المنوية في الاوعية الزجاجية للجاموس المصري.

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المستخلص

يعتبر مصل العجول من أهم الإضافات البروتينية المستخدمة في حالات التلقيح في الأوعية الزجاجية ولكن هذا المصل ليس مناسباً لبويضات الجاموس فقد استخدمنا مصل الجاموس في مراحل الشبق المختلفة. تم تجميع بويضات الجاموس وإنضاجها إما في وسط زراعة الأنسجة — ١٩٩ أو في وسط "هام ف-١٠" مضافاً إليه إما ١٠٪ من مصل العجول أو ١٠٪ من مصل الجاموس في مراحل الشبق المختلفة. تم التحليل البيوكيميائي للأوساط بعد نضوج البويضات وتنشيط الحيوانات المنوية في أوساط "براكيت و اوليفنت" و "تالب" للبروتين الكلي والكالسيوم والفوسفور والدهون الكلية والكوليسترول وثلاثي الجليسرين والبروتينات الدهنية منخفضة وعالية الكثافة والأحماض الأمينية الحرة. وقد وجد أن وسط ١٩٩ أفضل من وسط "هام ف-١٠" المزود بمصل الجاموس لنضوج البويضات وان وسط "التالب" المزود بالهيبارين والكافيين أفضل من وسط "براكيت و اوليفنت".

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