**Determination of Ceruloplasmin Oxidase Activity, Copper and Iron in Seminal Fluid of Fertile and Infertile Males**

Document Type : Original Article

**Authors**

* [Shahlaa Shafiq Rozoqi](https://ejchem.journals.ekb.eg/?_action=article&au=607185&_au=Shahlaa+Shafiq++Rozoqi) [1](https://ejchem.journals.ekb.eg/article_267488.html#aff1) [Burhan Ahmed Salih](https://ejchem.journals.ekb.eg/?_action=article&au=607186&_au=Burhan+Ahmed++Salih) [1](https://ejchem.journals.ekb.eg/article_267488.html#aff1) [Dina Ali](https://ejchem.journals.ekb.eg/?_action=article&au=200331&_au=Dina++Ali) [2](https://ejchem.journals.ekb.eg/article_267488.html#aff2)

1 Department of Medical laboratory Technology, Erbil Health and Medical Technical College, Erbil Polytechnic University, Erbil, Iraq

2 High Institute for Infertility Diagnosis & Assisted Reproductive Technologies,Al-Nahrine University,Baghdad, Iraq

 [10.21608/EJCHEM.2022.161174.6930](https://doi.org/10.21608/ejchem.2022.161174.6930)

**Abstract**

Abstract

The copper transport protein ceruloplasmin (CP) is suggested to have a role in male infertility. It considers one of antioxidant enzymes by controlling the reaction of iron. Ceruloplasmin oxidase activity was measured by using the colorimetric method. The seminal fluids of patients and control were collected from Infertility Diagnosis & Assisted Reproductive Technologies-Baghdad/ Iraq. The study was included eighty one infertile male patients and forty four fertile male, copper concentration and iron concentration were estimated for all the samples by using atomic absorption spectrophotometer. The result of this study was shown no significant difference (p>0.05) between mean oxidase activity of ceruloplasmin in normozoospermic (5.116 ±2.681 U/L) and mean oxidase activity of cp in asthenozoospermic (3.586± 1.744 U/L), oligozoospermic (3.9472 ± 1.105 U/L), but there was showed highly significant decreased (P<0.001) between mean activity of ceruloplasmin in azoospermic (2.133 ± 0.940U/L) and mean activity of ceruloplasmin in normozoospermic (5.116 ±2.681 U/L). Also, the result of copper concentration was appeared no significant difference between normozoospermic and all infertile subgroups (P =0.6270), otherwise there is highly significant in iron concentration between normozoospermic and all infertile subgroups (P <0.0001).

**Keywords**

* [Keywords: Ceruloplasmin](https://ejchem.journals.ekb.eg/?_action=article&kw=375228&_kw=Keywords%3A+Ceruloplasmin)  [Infertile](https://ejchem.journals.ekb.eg/?_action=article&kw=275663&_kw=Infertile) [Copper](https://ejchem.journals.ekb.eg/?_action=article&kw=560&_kw=Copper)  [Iron](https://ejchem.journals.ekb.eg/?_action=article&kw=561&_kw=Iron)