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Effect of metformin on semen quality

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Abstract: Various studies have linked metformin, a universally antidiabetic drug, with semen quality; however, such a direct link has not been established. This review systematically addresses and summarizes the effect of metformin on semen quality, particularly sperm function. We searched the MEDLINE electronic database for English articles and abstracts containing the key words 'metformin' and 'sperm', and relevant articles were reviewed. In summary, metformin appears to have improved and provided positive impact on sperm quality. This effect may be due to the ability of metformin to reduce oxidative stress and lipid peroxidation, enhance 5'-AMP activated protein kinase activity, and restore the normal levels of pituitary- gonadal hormones. However, further clinical research is still necessary to confirm such effect.