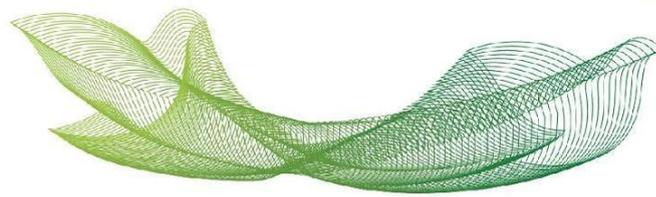


Tipo	Periódico
Título	Intravascular hemolysis leads to exaggerated corpus cavernosum relaxation: Implication for priapism in sickle cell disease
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Resumo	Patients with sickle cell disease (SCD) display priapism. Clinical studies have shown a strong positive correlation between priapism and high levels of intravascular hemolysis in men with SCD. However, there are no experimental studies that show that intravascular hemolysis promotes alterations in erectile function. Therefore, we aimed to evaluate the corpus cavernosum smooth muscle relaxant function in a murine model that displays intravascular hemolysis induced by phenylhydrazine (PHZ), as well as the role of intravascular hemolysis in increasing the stress oxidative in the penis. Corpus cavernosum strips were dissected free and placed in organ baths. Acetylcholine and electrical field stimulation (EFS)-induced corpus cavernosum relaxations in vitro were obtained. Increased corpus cavernosum relaxant responses to acetylcholine and EFS were observed in the PHZ group. Protein expression of heme oxygenase-1 increased in the corpus cavernosum of the PHZ group, but PDE5 protein expression was not modified. Preincubation with the heme oxygenase inhibitor 1 J completely reversed the increased relaxant responses to acetylcholine and EFS in PHZ mice. Protein expression of NADPH oxidase subunit gp91phox, 3-nitrotyrosine, and 4-hydroxynonenal increased in the corpus cavernosum of the PHZ group, suggesting a state of oxidative stress. Basal cGMP production was lower in the PHZ group. Our results show that intravascular hemolysis promotes increased corpus cavernosum smooth muscle relaxation associated with increased HO-1 expression, as well as increased oxidative stress



	associated with upregulation of gp91phox expression. Moreover, our study supports clinical studies that point to a strong positive correlation between priapism and high levels of intravascular hemolysis in men with SCD.
Fomento	Fapesp