

PHARMACOVIGILANCE & DRUG SAFETY SUMMIT

JULY 06-07, 2017 KUALA LUMPUR, MALAYSIA

Effects of Vinpocetine and Isosorbide-5-mononitrate on experimental Schistosomiasis mansoni, parasitological and histopathological study

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Background: Schistosomiasis is a major public health problem in developing countries. Currently, praziquantel (PZQ) is the drug of choice for human schistosomiasis. Owing to the increasingly recognized PZQ resistance, there is an urgent need to develop new alternatives.

Methodology: The anti-schistosomal and/or the hepatoprotective efficacy of the anti-inflammatory drug; Vinpocetine, and the vasodilator and the nitric oxide (NO) donor; Isosorbide-5-mononitrate (IS-5-MN) were assessed in *Schistosoma mansoni*-infected mice, using some parasitological, and histopathological parameters.

Findings: PZQ significantly increased the percentage of dead eggs and decreased granuloma count, but did not reduce granuloma diameter while, either vinpocetine or IS-5-MN significantly reduced granuloma count and diameter. Moreover, IS-5-MN monotherapy significantly reduced hepatic inflammation and necrosis. The best results were obtained in the mice groups treated with IS-5-MN combined with PZQ or Vinpocetine.

Conclusion & Significance: Our results point to Vinpocetine and IS-5-MN as a convenient and promising adjuvant agents to PZQ to ameliorate schistosomal liver pathology. Future studies are recommended to reveal the actual pathways responsible for all different activities of Vinpocetine and IS-5-MN.

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