

Melatonin reduces cortisol response to ACTH in humans La melatonina reduce la respuesta de cortisol al ACTH en humanos

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Background: Melatonin receptors are widely distributed in human tissues but they have not been reported in human adrenal gland. **Aim:** To assess if the human adrenal gland expresses melatonin receptors and if melatonin affects cortisol response to ACTH in dexamethasone suppressed volunteers. **Material and methods:** Adrenal glands were obtained from 4 patients undergoing unilateral nephrectomy-adrenalectomy for renal cancer. Expression of mRNA MT1 and MT2 melatonin receptors was measured by Reverse Transcriptase Polymerase Chain Reaction (RT-PCR). The effect of melatonin on the response to intravenous (i.v.) ACTH was tested (randomized cross-over, double-blind, placebo-controlled trial) in eight young healthy males pretreated with dexamethasone (1 mg) at 23:00 h. On the next day, at 08:00 h, an i.v. line was inserted, at 08:30 h, and after a blood sample, subjects ingested 6 mg melatonin or placebo. At 09:00 h, 1-24 ACTH (Cortrosyn, 1 µg/1.73 m² body surface area) was injected, drawing samp