

Hypertension and use of an intrauterine levonorgestrel-releasing device

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Dear Editor,

Hypertension is a common disorder in the general population. In 95% no underlying cause can be identified. In woman use of contraceptive drugs should be considered. Less known is that even a levonorgestrel-containing intrauterine device (LNG-IUD) can cause high blood pressure (BP). However, since 2007 this side effect is no longer mentioned in the official drug information in the Netherlands.

In our clinic we saw a 46-year-old woman with an increase in BP after insertion of an LNG-IUD. She had used oral contraception (Stediril '30' containing thinylestradiol 30 µg and levonorgestrel 150 µg) for ten years without problems; however, her BP had not been registered. She did not have any cardiovascular risk factors. Twelve years after she stopped oral contraception she was diagnosed with hypertension. No underlying cause could be identified. Five years later her BP was well regulated (114/73 mmHg) with metoprolol retard 50 mg and losartan 100 mg, both once daily. Three months later, her office BP had increased to 150/100 mmHg. Ambulatory 24-hour BP monitoring revealed an average value of 159/103 mmHg. One month earlier she had a levonorgestrel-containing IUD implanted. She was not experiencing any psychological or social stress at that moment, and she was still taking the same drugs as before. Since the relation in time was striking, the IUD was removed. Two weeks later her office BP decreased to 140/90 mmHg. Four months later repeated self-measured home BP was well regulated again (130/80 mmHg). The medication was unchanged. After some months she underwent an uncomplicated sterilisation.

The LNG-IUD releases on average 14 µg levonorgestrel daily into the uterine cavity, with the highest values in the first year after insertion.¹ Although the plasma concentration of levonorgestrel is low as compared with oral contraceptive drugs, systemic side effects can still occur. Reported symptoms are headache, acne, hirsutism and mood disturbance.²

The occurrence of hypertension during use of an LNG-IUD has been studied several times, but none of the studies, with a follow-up of one to ten years, could find a relation.^{3,5} However, no studies have addressed the short-term effect of an LNG-IUD on the BP.

The mechanism by which progestagens can cause hypertension is still not completely understood and study results are conflicting. Likely the renin-angiotensin-aldosterone system and genetic predisposition play an important role.

With this letter we would like to highlight that increase in blood pressure might be due to an LNG-IUD.

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