One size doesn't fit all, when using hormone therapy to treat endometriosis

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Endometriosis—a condition caused by uterine tissue growing outside of the organ—affects 10% of reproductive-aged women, whom it causes chronic pain that is significant and debilitating. The standard first-line treatment for all women with endometriosis is hormonal, specifically progestin-based, therapy.

Yet a team of researchers at Yale has shown that the effectiveness of progestin-therapy depends on whether a woman's endometriotic lesions have the progesterone receptor (PR) present. This study appears online in the *Journal of Clinical Endocrinology & Metabolism*.

The researchers tested the endometriotic lesions of 52 women who had undergone surgical evaluation for endometriosis at Yale New Haven Hospital for their PR status. They found a significant association between PR status and responsiveness to progestin-therapy. Those whose endometriotic lesions were PR-positive responded much better to the progestin-therapy, while those whose lesions were PR-negative found little relief from progestin-therapy alone.

From these findings, the research team concluded that knowing a woman's PR-status may help them develop a "novel, targeted, precision-based" approach to treating and managing endometriosis individually. "Receptor status in endometriosis could be used in a manner analogous to the use of estrogen/progesterone receptor status in breast cancer for tailoring hormonal-based regimens," said Dr. Valerie Flores, first author and clinical instructor at the Yale School of Medicine.

"Such an approach to endometriosis management would make trialing progestin-based therapy to determine response unnecessary," said Flores, "and would therefore minimize delays in providing the optimal medical therapy for each individual patient."

More information: Valerie A Flores et al, Progesterone Receptor Status Predicts Response to Progestin Therapy in Endometriosis, *The Journal of Clinical Endocrinology & Metabolism* (2018). DOI: 10.1210/jc.2018-01227

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