

## Hysteroscopic Myomectomy can lead to intrauterine adhesions and infertility

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Neuwirth with his team performed the first hysteroscopic myomectomy in 1976 which largely replaced the conventional surgical interventions and began a new age of minimally invasive gynaecological procedure.<sup>1</sup> Soon after the first case, multiple trials and procedures were done in post-acute uterine bleeding cases that were confirmed for submucosal leiomyomas and it became a standard technique. In 2014, FDA issued the document on 'Laparoscopic Power Morcellation during Uterine Surgery for Fibroids' after the meeting on devices advisory committee where multiple treatment modalities were discussed. The authority claimed hysteroscopic myomectomy as 'over all less morbid' than abdominal and laparoscopic hysterectomy.<sup>2</sup> Despite of all trials and efficacy of the mentioned procedure, intrauterine adhesions or known as Asherman's syndrome is a neglected factor associated with it.

It is an evidence based fact that the prevalence of intrauterine adhesions is around 31 to 45% amongst the females undergoing hysteroscopic myomectomy.<sup>3</sup> It is also known that after myomectomy the endometrial repair leads to excessive extracellular matrix proliferation that initiates the fibrous scar adhesions, this is also biochemically associated with other cytokines and TGF- $\beta$ .<sup>4,5</sup> A prospective analysis by Taskin et al stated that 37.1% of all the monopolar submucosal fibroid resections presented with intrauterine adhesions on a second-look exam whereas 45% amongst the subjects with multiple resections.<sup>6</sup> Another extensive study stated the formation of intrauterine adhesions are present after this intervention but made the depth of the intramural penetration and parity largely liable for this disorder.<sup>7</sup> Another investigation by Bhandari concluded that 21.75% of the patients undergoing myomectomy had adhesions and fibrosis, further it was commented that early treatment should be given to fertility seeking individuals.<sup>8</sup> This procedure leads to surgical trauma to the endometrium that promises an adhesive forming

response by the underlying tissue, on second-look post operatively, almost 10% do have the intra uterine adhesions.<sup>9</sup> Although it is considered a gold standard and a more efficient procedure than the classical modalities but yet further evaluations by revisiting the protocols and multi-centered trials are still required to address the intrauterine adhesions associated with it. This post-surgical complication can lead to loss of fertility which can affect the feminine as well as psychological health of the patient.

Amid the above mentioned investigations, suggesting hysteroscopic myomectomy as a culprit for the intrauterine adhesions, we find that pre-operative uterine artery embolization can lead to only 18% of synechiae and prevent major fibrosis. The use of intraoperative reabsorbable clips on uterine arteries brought the complication to 0%. This brings in account the revisiting of already known protocols, reconsidering the surgical methodology and refining the expertise in this field. The cold knife excisions and other cutting edge technologies can surely make this procedure a gold standard in every aspect. For now, the clinicians need to think before opting this procedure amongst the women expecting fertility and the patients need to reconsider their options in treating myomas. Even after this procedure, prompt treatment of these adhesions are essential to prevent infertility.

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