


# Hysteroscopic morcelation of large type II myoma

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Received: 23 March 2015 / Accepted: 2 July 2015 / Published online: 17 July 2015  
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**Keywords** Hysteroscopic morcelation · Morcelation · Myoma · Fibroids

## Introduction

Large uterine submucous fibroids can cause severe clinical symptoms, depending on size and location [1]. The standard technique to remove uterine intracavitary abnormalities is resectoscopy [1]. Electroresection is used to remove polyps, type 0 or I myoma <5 cm diameter, whereas type II myomas are commonly treated in more than one procedure [3, 6].

Hysteroscopic morcelation (HM) is a promising technique to remove myomas. HM reduces tissue by mechanical cutting into small fragments [2–4], whereas subsequent aspiration leads to tissue collection. Several studies indicated successful removal of myomas (type I or 0) and polyps by HM [3]. Consistency of myomas can be a significant factor using morcelation. This communication describes the first successful morcelation of a soft 6-cm type II myoma.

## Case

A woman (39 years) visiting the outpatient Gynaecology Clinic<sup>2</sup>, complaining of heavy regular menstrual bleeding (HMB), revealed at diagnostic workup a 6-cm submucous uterine fibroid (Fig. 1a, b). Her history included four caesarean sections and a left salpingectomy. Leuprolide acetate showed no benefit. Hysteroscopic removal of the myoma was attempted by using the HM. The patient received misoprostol and antibiotics preoperatively and was counselled for multiple procedures. During an international workshop<sup>2</sup>, complete morcelation using HM (TRUCLEAR; Smith and Nephew, Andover, MA, USA) was performed, using a reciprocating 5-mm blade (Fig. 2). Intrauterine pressure of 100 mmHG, a rotary speed of 1400 rpm and a suction of 200 mm Hg was used to morcelate the intracavitary part of the myoma. The remaining intramural part was enucleated and morcelated manoeuvring the stiff blade between the myoma and the capsula. The procedure lasted 15.4 min with 450 cc fluid deficit. Finally, no adherent intracavitary remnants remained (Fig. 1c).

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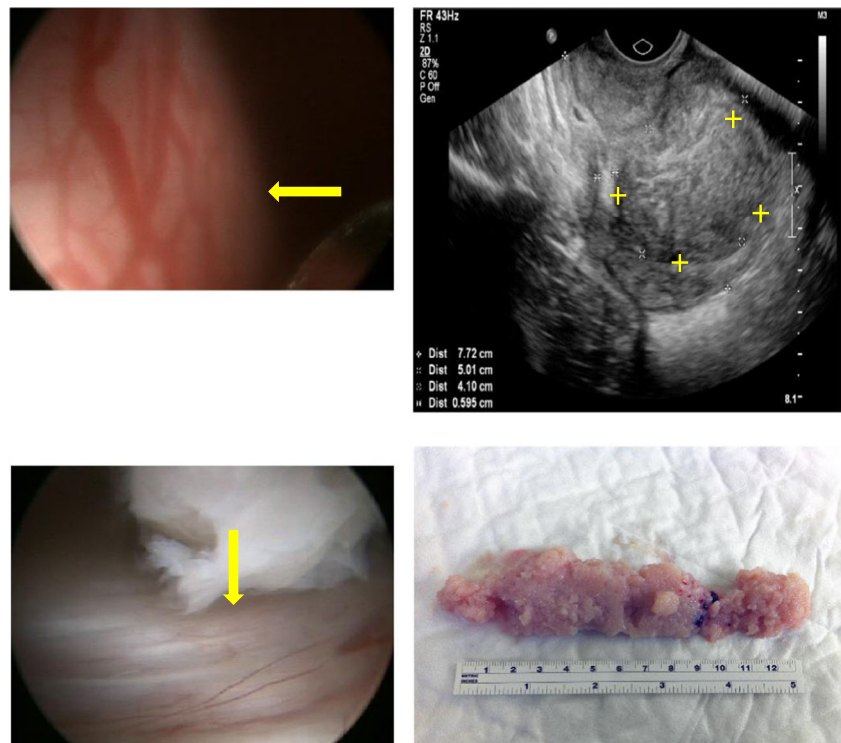
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## Discussion

This communication describes a complete hysteroscopic morcelation of a soft 6-cm, type II myoma. Studies using HM describe safe resection of type 0 or I myomas [2, 3, 5]. HM is easy to perform, demonstrates less fluid-related complications and shows a shorter learning curve,

**Fig. 1** **a** Pre-operative hysteroscopic view of intracavitary part of the myoma (the *arrow* points at the surface of the myoma); **b** US position of myoma in the uterus; the *callipers* indicate the outline of the myoma; **c** post-operative view of the capsule of the enucleated myoma (*arrow* pointing to capsule, small myoma fragment above); **d** all material of the myoma as collected in the tissue trap



compared to traditional resectoscopes [2, 3, 5]. Significant reduction in operation time may be due to simultaneous aspiration of tissue fragments rather than the removal of each individual fragment by using resectoscopy [1–3]. Risks of complications increase in type II myoma with increased intramural extension [6, 7]. Overall, success rates are lower with higher rates of incomplete resection, post-operative bleeding and reoperation [7].

Probably the soft tissue characteristics led to complete removal in a short operation time, with minimal fluid loss. There is more adaption of tissue into the beak of the device, and larger tissue fragments could

be morcelated. The tip of the device is able to dissect the myoma out of its capsula. Despite the absence of electrical current, no excessive bleeding or other complications occurred which demonstrates the future opportunities of HM.

Furthermore, it could be of importance to examine the consistency of the myoma (e.g. using dynamic sonography and elastography) in the pre-operative assessment prior to hysteroscopic removal.

Morcelation of a type II myoma should be performed in select cases to optimize outcome with notice of the consistency of the myoma.

**Fig. 2** TRUCLEAR hysteroscopic morcellator



**Authors' contribution** Karin Abbink wrote the manuscript. Dick B.C. Schoot collected data and edited the manuscript. Sedy Sameer and Tawfig H. Gaafar collected data.

**Conflict of interest** The authors declare that they have no competing interest.

**Informed consent** Informed consent was obtained from the participant included in the study.

**Ethical approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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