Research Article

The Outcome on Conservative Surgical Treatment of Adenomyosis

Luaran Operasi Konservatif bagi Penderita Adenomiosis

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Abstract

Objective: To understand the outcome on conservative surgical treatment of adenomyosis.

Methods: A retrospective cohort study followed for 2 years from 2010 to 2012 of women with adenomyosis were diagnosed by transvaginal sonography and confirmed histologically. Subjects divided into women who were treated by adenomyosis resection (with/without Osada's technique) and who were underwent hysterectomy.

Results: After the surgery, as many as 40 patients (81.63%) did not feel any pain (VAS 0), and 9 patients (18.37%) still felt pain. For the fertility outcome, we had 8 patients (20.51%) getting pregnant naturally without any fertility intervention. Two patients (5.13%) had successfully conceived by IVF. According to the type of surgery, from 8 natural pregnancy, 7 patients (87.50%) was underwent conventional resection of adenomyosis and 1 patients (12.50%) underwent Osada's procedures. Two patients who were conceived by IVF, both of them were underwent Osada's resection.

Conclusion: Adenomyosis resection both conservative or Osada's procedures actually has a better outcome for relieving pain; therefore, some patients can still have a child.

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Keywords: adenomyosis resection, conventional resection, infertility, Osada's procedure

Abstrak

***Tujuan**: Untuk mengetahui keberhasilan operasi secara konservatif bagi penderita adenomiosis.*

***Metode**: Penelitian ini menggunakan studi restropektif yang diikuti selama 2 tahun mulai tahun 2010-2012 pada pasien adenomiosis yang diagnosis berdasarkan pemeriksaan sonografi transvaginal dan dibuktikan secara histologi. Subjek dibagi menjadi dua kelompok, yaitu yang ditangani dengan reseksi adenomiosis (dengan/tanpa teknik Osada) dan yang ditangani dengan histerektomi.*

***Hasil**: Setelah dilakukan operasi, 40 pasien (81,63%) tidak lagi merasakan nyeri (VAS 0), dan 9 pasien (18,37%) masih merasakan nyeri. Untuk keberhasilan kehamilan, 8 pasien (20,51%) hamil secara alami tanpa intervensi kesuburan apa pun, dan 2 pasien (5,13%) berhasil hamil dengan teknik fertilisasi in vitro (FIV). Berdasarkan tipe operasi adenomiosis, dari 8 kehamilan alami, 7 pasien (87,50%) dilakukan dengan reseksi adenomiosis secara konservatif dan 1 pasien (12,50%) dengan Osada. Dua pasien yang berhasil hamil dengan FIV, reseksi adenomiosis dilakukan dengan teknik Osada.*

***Kesimpulan**: Reseksi adenomiosis, baik konservatif maupun Osada memiliki keberhasilan yang baik dalam menghilangkan keluhan nyeri dan beberapa pasien dapat tetap memiliki anak.*

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***Kata kunci**: infertilitas, reseksi adenomiosis, reseksi konvensional, prosedur Osada*

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INTRODUCTION

Bird et al. defines adenomyosis as the benign invasion of endometrium into the myometrium, producing a diffusely enlarged uterus which microscopically exhibits ectopic, non-neoplastic, endometrial glands, and stroma surrounded by the hypertrophic and hyperplastic myometrium.[1,2] The disease has been recognized since the end of the 19th century, but during the first quarter of the 20th century, all mucosal invasions in the peritoneal cavity or within the uterine walls were labeled as 'adenomyomas'.[3]

The incidence of this disease usually occurs to women at perimenopause period; however, nowadays, many women at reproductive age suffers from adenomyosis. Some studies said this condition was due to the changes of lifestyle.[2]

The symptoms are various, including dysmenorrhea (80%) as the most frequent symptom presented by the patients. Other symptoms are pelvic pain (50%), infertility (40%), and menstrual disturbance (20%). Apart from that, there are less often complaints such as menorrhagia, dyspareunia, suprapubic pain, uterus enlargement, and some women do not have any complaints.[4,5]

The effective treatment requires more radical resection of the affected tissues. It is still controversial between the radical procedure with hyster-

ectomy and conservative surgery by adenomyosis resection.[3,6,7] Since 1952, surgery for adenomyosis performed with resection of adenomyosis, followed by the reconstruction of the uterus wall (called by conservative surgery). In 2010, Hisao Osada had introduced surgical technique initiated by placing a temporary tourniquet around the lower uterine segment of the uterus to prevent the massive bleeding. The operator would open the uterus boldly all the way down to the endometrial lining. The non-demarcated adenomyotic tissue was excised leaving a centimeter on the endometrial side and a centimeter on the serosal (outer) side of the uterus. Furthermore, the remaining muscle of this debulked adenomyotic uterus musculature would be closed with many layers of sutures, all non-overlapping flaps, to prevent the risk of rupture.[7] Therefore, this study aims to understand the outcome on conservative surgical treatment of adenomyosis.

METHODS

This retrospective cohort study was performed at Dr. Cipto Mangunkusumo General Hospital, Jakarta, Indonesia. All medical records of patients with a diagnosis of adenomyosis between January 2010 and November 2012 were reviewed. All patients already underwent laparotomy adenomyosis resection with or without GnRH agonist as adjuvant treatment.

We collected 96 patients diagnosed adenomyosis. They had already done surgery treatment; whereas, 49 patients underwent adenomyosis resection and the remaining of 47 patients underwent hysterectomy.

Diagnosis of adenomyosis was confirmed with transvaginal sonography and histological evaluation after surgery. About 18 women undertook adenomyosis resection by Osada's procedure. Meanwhile, 31 women carried out conventional adenomyosis resection. All surgery procedures were well documented on medical records.

Informed consent was obtained and approved by The Ethical Committee, Faculty of Medicine Universitas Indonesia.

RESULTS

Of 96 patients who diagnosed adenomyosis between January 2010 and November 2012, 47 patients (48.96%) ran into hysterectomy. Almost all patients diagnosed with adenomyosis, presented severe dysmenorrhea (having Visual Analog Scale/ VAS >7) and some patients said about dyspareunia. Thirty-three patients caused by primary infertility went through adenomyosis resection. On the other hands, all patients performed hysterectomy already had married, the average age was 45.52 (SD 3.61) years old, 37 patients already had at least 1 child, and 1 patient experienced primary infertility for 10 years; but, she already agreed to have hysterectomy. Age of patients undergoing either hysterectomy or adenomyosis resection was ranged between 28 and 49 years old, which all of them still had regular menstrual period.

Among 49 patients carrying out adenomyosis resection, 31 of them (32.29%) were held conventional adenomyosis resection and the mean age of them was 35.83 (SD 3.51) years old. Eighteen patients (18.75%) underwent surgery by Osada's procedure with mean age were 33.63 (SD 3.48) years old.

Table 1. Mean Age of Subjects based on Surgery Method

Surgery Method		n (%)	Age (Mean (SD))
Hysterectomy		47 (48.96)	45.52 (3.61)
Resection	Conventional	31 (32.29)	35.83 (3.51)
	Osada	18 (18.75)	33.63 (3.48)

Looking at the symptoms, dysmenorrhea was the most common complaints (69.39%) of patients to seek treatment in hospital. While, other symptoms such as pelvic pain, dyspareunia, and bleeding became less common. Regarding to the fertility problem, 33 patients (67.35%) came with primary infertility, 6 patients (12.24%) with secondary infertility, and 10 patients (20.41%) with no fertility problem.

Before surgery, most patients presented with dysmenorrhea with the VAS of 7-10. One year after surgery, 40 patients (81.63%) did not feel pain (VAS 0) and there were no patients complaining with persistent pain. Besides, 9 patients (18.37%) were still perceived less pain without further treatment.

Table 2. Clinical Characteristics and Symptoms after Surgery

Variables		n (%)
Parity	0	37 (75.51)
	1	6 (12.24)
	2	4 (8.16)
	3	2 (4.08)
Symptoms	Dysmenorrhea	34 (69.39)
	Pelvic pain	7 (14.29)
	Dysmenorrhea and dyspareunia	4 (8.16)
	Dysmenorrhea and pelvic pain	3 (6.12)
	Hemorrhage	1 (2.04)
Fertility	Primary infertility	33 (67.35)
	Secondary infertility	6 (12.24)
	No infertility	10 (20.41)
Symptoms after operation	No symptom	40 (81.63)
	Persistent symptoms (persistent VAS)	0 (0.00)
	Decreased symptoms (VAS<2)	9 (18.37)

The duration of infertility was 4.94 (SD 3.52) years for primary infertility and 7.33 (4.68) years for secondary infertility. Concerning to the result of fertility, there were 8 patients (20.51%) conceived naturally without fertility intervention, 2 patients were successfully delivered by cesarean section (CS), and no events of uterine rupture. Until finishing this study, four patients were still continuing their pregnancy and having more than 20 weeks of gestational age. Unfortunately, the 2 patients who conceived naturally experienced miscarriage at 3 months of pregnancy. Two patients (5.13%), which had been successfully prepared by in vitro fertilization (IVF), was delivered by CS. According to the surgery method, 8 women who succeeded natural pregnancy, 7 patients (87.5%) were performed conventional adenomyosis resection and 1 patient (12.5%) was underwent the Osada's procedure resection. Two patients who were conceived by IVF, both of them were resected though Osada's procedure.

DISCUSSION

Adenomyosis may be described as a diffuse invasion of endometrial element into the uterine myometrium. Adenomyosis differs from fibromyomatous growth; whereas, there is no discrete borders between the normal uterine tissue and the lesion. Therefore, a clear dissection plane is difficult to establish so that this procedure is challenging.[3,7]

In addition to infertility, high grade of adenomyosis also causes severe dysmenorrhoea and hypermenorrhoea, which adversely affects the woman's well-being. The management for the latter two symptoms includes long-term hormonal therapy, analgesics, and finally hysterectomy. For those who wish to preserve reproductive function, the surgical management of severe adenomyosis cases is particularly difficult because the operator has to excise diffusely involving tissue and prevent the occurrence of uterine rupture in the event of pregnancy.[3,4,8]

Table 3. Fertility Outcome based on Surgery Method

Pregnancy	n (%)	Osada Procedure (%)	Conventional resection (%)
Natural pregnancy	8 (20.51)	1 (12.50)	7 (87.50)
Pregnancy with IVF	2 (5.13)	2 (100.00)	0 (0.00)
Unpregnant	29 (74.36)		

The requirement of adenomyosis surgery for the purpose of preserving reproductive functions is as follows. Firstly, it is ideal if tubal patency can be retained to allow for natural pregnancy. Secondly, the uterine cavity must be retained intact in order to assure implantation. Thirdly, the uterine wall must be properly reconstructed to enable it to sustain fetal growth following conception. In other words, the operator must reconstruct the uterine wall which can endure the thin lines associated with the expansion of the uterine cavity. In the end, it results the development of pregnancy.[7,9,10]

There is also the problem on recurrence of the disease. In this case, we had to observe the patient routinely and perform ultrasound examination to investigate whether there was a new mass. Unfortunately, this was not a routine procedure in our hospital. Up to a year follow-up, all patients who carried out resection did not complain about severe dysmenorrhea.[5]

Some patients (9 patients) still presented pain on the low VAS score so that they did not obtain the analgesic medication. Among 49 patients undergoing surgery, 22 of them were given GnRH agonist (Tapros®), 10 patients did not receive any treatment; however, we did not have any information about other 17 patients. Both group of patients who were given GnRH agonist or not had no different outcome on the pain score measured by VAS after surgery.[11]

Based on the observation on two methods of adenomyosis resection, the first was adenomyosis conventional resection (performed for 31 patients (32.29%)) compared to Osada procedure (performed for 18 patients (18.75%)). We did not find any significantly different outcome between these surgical techniques. Close observation shoud perform for many years into the future to conclude the final outcome between these two procedures. Studies that had been conducted by Osada in 2011, the ten-year observation after Osada procedure which included 104 subjects showed excellent results in the likelihood of adenomyosis recurrence.[3,6,7]

Regarding to the result of fertility, among 49 patients, 33 of them (67.35%) came with primary infertility, 6 patients (12.24%) had secondary infertility problem. After resection performed, 8 patients (20.51%) had a natural pregnancy with 2 of them underwent a caesarean delivery and their babies were in good condition. Two patients (5.13%) who conceived with IVF procedure and underwent cesarean section delivery. Among these two patients who became pregnant by natural conception; unfortunately, they had miscarriage at 3 months of pregnancy. This is in accordance with study by Lukes, et al., which stated that the risk of miscarriage in adenomyosis was four times higher than women without adenomyosis.[9,12]

The low percentage of pregnancy after surgery was due to several reasons. Possible causes were firstly, postoperatively, almost all patients did not come back to the follow up on their fertility problem. Secondly, fertility work-up was not performed completely before the surgery because most of the main complaints of patients coming to the hospital was severe pain. Among 7 patients having successful pregnancy (more than 20 weeks of gestational age), only 2 patients with IVF pregnancy came for antenatal care at our hospital.

CONCLUSION

Adenomyosis resection offers new hope to patients who want to preserve their uterus for several reasons. Adenomyosis resection, either conventional or Osada's procedure actually has better outcomes for pain relief and similar result for the heredity. Fertility work-up (both husband and wife) and some reproductive interventions, such as intrauterine insemination (IUI) or IVF may increase the probability of pregnancy for women who suffer from adenomyosis.

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