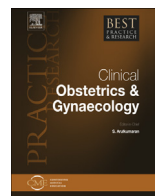




ELSEVIER

Contents lists available at ScienceDirect

Best Practice & Research Clinical Obstetrics and Gynaecology

journal homepage: www.elsevier.com/locate/bpobgyn

10

Role of robotic surgery in cervical malignancy

Jeong-Yeol Park, MD, PhD, Professor of Gynecologic Oncology,
Joo-Hyun Nam, MD, PhD, Professor of Gynecologic Oncology*

Department of Obstetrics and Gynecology, University of Ulsan College of Medicine, Asan Medical Center,
Seoul, Republic of Korea

Keywords:

robotic surgery
robotic radical hysterectomy
robotic radical trachelectomy
cervical cancer

Surgical treatment is the mainstay of the management of early-stage cervical cancer. Abdominal radical hysterectomy and trachelectomy have long been the standard surgical approach to early-stage cervical cancer, achieving excellent survival outcomes. Recently, laparoscopic radical hysterectomy and trachelectomy have become the preferred alternative to abdominal surgery because laparoscopic approaches lead to better surgical outcomes without compromising survival outcomes. Since the robotic surgery platform was approved for the use of gynaecologic surgery in 2005, robotic radical hysterectomy and trachelectomy have been increasingly used in the surgical management of early-stage cervical cancer. However, the role of robotic surgery is poorly defined. This review examines the role of robotic surgery in the surgical management of cervical cancer by comparing the published data on its use with those of abdominal and laparoscopic surgeries.

© 2017 Published by Elsevier Ltd.

Introduction

Cervical cancer is the third most common female cancer worldwide [1]. Because of the adoption of screening and vaccination programs in developed countries, the incidence of cervical cancer is decreasing [2,3]. However, it is still the fourth most common cause of cancer death in women globally [1].

* Corresponding author. Department of Obstetrics and Gynecology, University of Ulsan College of Medicine, Asan Medical Center, 388-1 Poongnap-2 dong, Songpa-gu, Seoul, 138-736, Republic of Korea. Tel.: +82 2 3010 3633; Fax: +82 2 476 7331.
E-mail address: jhnam@amc.seoul.kr (J.-H. Nam).

<http://dx.doi.org/10.1016/j.bpobgyn.2017.03.009>

1521-6934/© 2017 Published by Elsevier Ltd.

Most cervical cancers are diagnosed at an early stage and are amenable to surgical management [4]. Abdominal radical hysterectomy (ARH), along with the standard surgical management approach for early-stage cervical cancer, achieves excellent survival outcomes [4]. As an alternative minimally invasive surgery to ARH, laparoscopic radical hysterectomy (LRH) has been used since the early 1990s [5,6]. Initially, LRH was attempted for small early cervical cancers of less than 2 cm in size [7]. With the accumulation of experience and standardisation of surgical techniques, LRH is now performed for all early-stage cervical cancers [8]. In a consecutive series of early-stage cervical cancers, LRH has shown the same feasibility as ARH [9]. In other retrospective studies, the oncologic outcomes of LRH were comparable to those of ARH not only for small early-stage cervical cancer but also for bulky early-stage cervical cancer, obese patients and elderly patients [10–13]. The superior perioperative outcomes of LRH over those of ARH are well accepted, despite a lack of well-designed prospective randomised controlled trials. Compared with ARH, LRH is associated with less estimated blood loss, reduced transfusion requirement, a shorter hospital stay and less postoperative complications [7,8,10–12,14]. In addition, LRH is regarded the preferred surgical approach to early-stage cervical cancer.

Radical trachelectomy is accepted as a safe alternative surgical procedure to radical hysterectomy for young women with early-stage cervical cancer who want to preserve their fertility. Vaginal radical trachelectomy was the first surgical approach in this regard [15], but abdominal radical trachelectomy is gaining popularity because of its limited radicality and low technical difficulty in radical vaginal procedures [16]. Laparoscopic radical trachelectomy (LRT) is also accepted as a fertility-sparing surgical approach for early-stage cervical cancer because it has several advantages over the abdominal approach in terms of perioperative outcomes [17–19].

Since the robotic surgery platform was approved for the use of gynaecologic surgery in 2005, robotic radical hysterectomy (RRH) and robotic radical trachelectomy (RRT) have increasingly been used in the surgical treatment of early-stage cervical cancer [20]. Compared with conventional laparoscopic surgery, robotic surgery platforms have several advantages, including improved instrument dexterity, higher degrees of freedom for instrument movement, a three-dimensional view with a higher magnification and filtered tremor [21]. Therefore, their popularity is rapidly increasing, not least because of the short learning curve for these systems [22,23]. However, no randomised controlled trial to date has compared the safety and efficacy of robotic surgery, abdominal surgery and laparoscopic surgery in cervical cancer. In this review, we examined the literature to evaluate the role of robotic surgery in the surgical management of cervical cancer by comparing it with abdominal and laparoscopic surgeries.

Role of robotic surgery in radical hysterectomy

The outcomes of RRH in early-stage cervical cancer were published for the first time in 2008 [24]. This retrospective case series reported the operative outcomes and short-term follow-up results of 20 patients with stage IB-IIA cervical cancer who underwent RRH. All patients were discharged on postoperative day 1 in that series. There was one intraoperative and one postoperative urinary tract complication. The authors suggested that robotic surgery can further augment the role played by laparoscopic surgery in radical hysterectomy. Many surgeons subsequently reported their experiences with RRH in cervical cancer case series [25–28] (Table 1).

Initially, the outcomes of RRH were compared with those of ARH in several studies. The first case–control study to compare RRH and ARH was published in 2008 [29], comparing 3-year disease-free and overall survival outcomes between RRH ($n = 63$) and ARH ($n = 64$). The survival outcomes of RRH were comparable to those of ARH, but the surgical outcomes, including estimated blood loss, operative time and postoperative hospital stay, were more favourable for RRH with no increase in complications. Numerous subsequent studies have reported similar results. As a minimally invasive surgery, RRH has several advantages over ARH in terms of surgical outcomes and has similar survival outcomes [30–40] (Table 1). However, few studies have reported the long-term survival outcomes of RRH because of the short history of robotic surgery.

The first case–control study to compare RRH and LRH was reported in 2007 [41]. This small pilot case–control study included seven patients in each surgery group. Nine subsequent studies have compared the surgical outcomes between RRH and LRH [42–50] (Table 1). Most of these reports

Download English Version:

<https://daneshyari.com/en/article/8776600>

Download Persian Version:

<https://daneshyari.com/article/8776600>

[Daneshyari.com](https://daneshyari.com)