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Multidisciplinary Team Approach for the Management of Severe Deeply Infiltrating Endometriosis

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Abstract

Introduction: Colorectal endometriosis results in alterations of bowel habit and rectal bleeding (rarely). Evaluation of the disease process and subsequent surgical planning is *via* a multidisciplinary team approach.

Aim: The aim of our study is to analyze the gynecological endometriosis work load to assess colorectal involvement acquired.

Methods: This was a retrospective observational study. Data was collected from theatre records, MDT outcomes, clinical records, HIPE system and postoperative pathological findings. Inclusion criteria were those with documented clinical and imaging diagnosis of deep pelvic endometriosis. Patients diagnosed with endometriosis who underwent surgical management were reviewed. We analyzed the colorectal work load required in surgical approach in deeply penetrating endometriosis.

Results: Total of 28 women (mean age 39, range 26-56), over 3 years period (Jan 2014- Jan with diagnosis of Stage IV endometriosis who had undergone surgical intervention were included in our analysis. A clear majority have complained of pelvic pain (on defecationespecially perimenstrually). Operations included were anterior resection (6), sigmoid colectomy (1), rectovaginal fistula repair (1), appendectomy (1), adhesiolysis (3), and hysterectomy with or without bilateral salphingo-oophorectomy (16). About 42%of the cases had colorectal surgeon's involvement, adhesiolysis or complicated procedure such as anterior resection.

Conclusion: Colorectal input is required in significant volume in gynecological endometriosis cases. Studies have shown the surgical treatment of DIE is complex and subject to complications. The surgical expertise of a multidisciplinary team plays a vital role in this setting. For patient safety and medico legal cases it is important to have MDT approach.

Keywords: Deeply infiltrating endometriosis (DIE); Chronic pelvic pain; Surgical intervention; Complications; Patient safety; Medico legal cases; MDT approach

Introduction

Deep infiltrative endometriosis (DIE) has been defined as endometriosis that penetrates more than 5 mm under the peritoneal surface [1] DIE involves the uterosacral ligaments, the pouch of Douglas, the rectovaginal septum, sigmoid colon and rectum.

Chronic pelvic pain is associated with the depth of the DIE and surgical therapy remains the pillar of treatment [2].

Bowel endometriosis affects between 3.8% and 37% of women with endometriosis. The evaluation of symptoms and clinical examination are inadequate for an accurate diagnosis of intestinal endometriosis [3]. Larger nodules infiltrating the intestinal muscular layer cause a wide range of symptoms including dyschezia, constipation, diarrhea, abdominal bloating, painful bowel movements, passage of mucus in the stools and cyclical rectal bleeding.

In this setting, treatments as regards to symptoms can be challenging, [4,5] but to ensure complete removal of the disease and obtain the best results in terms of quality of life, extensive surgical removal of endometriosis lesions may be required [6]. Multiple studies show that the complete resection of endometriosis gives long-term symptomatic relief, especially for the one with debilitating symptoms [7-9]. Treatment should be adjusted in line with the specific characteristics of the disease [10,11]. There are many studies that show the evidence to support the use of laparoscopic surgery to improve pain and infertility [12].

The systematization of strategy is essential to make surgery more reproducible, safer and less time-consuming. Nevertheless, even in the most expert hands, complications may occur. Outcomes must, however, include pain, fertility, organ dysfunction and quality of life [13-16].

In chronic/persistent diseases, such as endometriosis an integrated approach involving a multi-disciplinary team is not just needed but rudimentary [17,18]. Thus a multidisciplinary surgical team led by a surgically experienced gynecologist working together in complex cases with urologists, gastrointestinal surgeons and/or general surgeons may

all play an important role in providing satisfactory treatment and as well as increasing the possibility of providing consistent, evidence-based and cost-efficient care [17,18].

As our multidisciplinary team has been working for over 3 years, the aim of our study was to analyze the gynaecological endometriosis work load to assess colorectal involvement acquired for DIE at AMNCH hospital.

Methods

This retrospective observational study involved a multidisciplinary surgical team who operated on women suffering with endometriosis from January 2014 to January 2016. Data was collected from theatre records, multidisciplinary outcomes, clinical records, HIPE system and postoperative pathological findings. A total of 28 women with diagnosis of stage IV endometriosis that underwent surgical intervention were included in the study.

Inclusion criteria were those with documented clinical and imaging diagnosis of deep pelvic endometriosis. All cases with histological confirmation of endometriosis were included. Relevant preoperative, intraoperative, and postoperative data were retrieved and recorded in an Excel spreadsheet. All the patients with stage 1, 2 and 3 endometriosis, patients with no surgical intervention and patients with bladder involvement. Since the aim of this study is analyze colorectal surgeon's involvement in Stage IV endometriosis, patients included in the study were solely those with deep colorectal endometriosis. Once the patients recovered fully from surgical aspect, they were followed up by gynaecologist to decide if any medical treatment is required. The requirement of medical therapy was not studied and hence not included in this study. This, unfortunately, is one of the limitations of this retrospective study.

All women underwent gynaecological examination, pelvic transvaginal and abdominal ultrasonography, colonoscopies, CT colonography to evaluate the presence of pelvic endometriosis. Biopsies were taken at the time of colonoscopies if a suspicious lesion was seen at the time. Colonoscopy results, pathological findings from the biopsies were correlated with the CT colonography and hence a systematic strategy regarding surgery was established for each patient. There are numerous classification methods proposed for endometriosis [19]. The gynaecologist involved in this multidisciplinary study used revised American Fertility Society classification it provides a standardized form for recording pathological findings and helps predict the probability of pregnancy following treatment [20].

CA125 is one of the biomarkers used in the diagnosis of endometriosis [21]. This biomarker is used in our centre as well for endometriosis diagnosis. However, this parameter was not included in this study.

All women were scheduled for laparoscopic management of deep infiltrating endometriosis and an informed written consent was taken for the surgical treatment. The surgical team had an extensive background in DIE. We choose to assess one gynaecologist and one colorectal surgeon to have a uniform criterion for all cases.

Different types of surgeries included anterior resection, sigmoid colectomy, rectovaginal fistula repair, appendectomy, adhesiolysis, and hysterectomy with or without bilateral salphingo-oophorectomy.

Bowel resection was preformed when radiological diagnosis of intestinal endometriosis confirmed the presence of intestinal lesions associated with marked restriction of the bowel lumen after colonoscopy. Furthermore, in deciding intestinal resection or just intestinal nodule shaving is required, we considered endometriosis and intestinal symptoms, impairment of quality of life due to intestinal symptoms, desire of pregnancy and the intra-operative evaluation performed by the gynaecological surgeon and the colorectal surgeon.

Patients diagnosed with endometriosis who underwent surgical management were reviewed and correlated with the histological findings and patients with histological confirmation of endometriosis were included in our study. We analyzed the colorectal work load required in surgical approach in deeply penetrating endometriosis.

Results

During the study total of 28women (mean age 39, range 26-56), over 3 years' period (Jan 2014-Jan 2016) with diagnosis of Stage IV endometriosis who had undergone surgical intervention, were included in our analysis.

Most of these women have this complex surgery because of pelvic pain which impacts on their quality of life considerably, and on questioning will also report pain on defecation, especially perimenstrually, which points towards deeply infiltrating endometriosis involving bowel.

Operations included were anterior resection (6), sigmoid colectomy (1), rectovaginal fistula repair (1), appendectomy (1), adhesiolysis (3), and hysterectomy with or without bilateral salphingo-oophorectomy (16).

About 42% of the cases had colorectal surgeon's involvement, adhesiolysis or complicated procedure such as anterior resection.

Discussion

The multidisciplinary team approach is considered as one of the essential practice in the management of chronic conditions. According to a study conducted by Ugwumadu et al. [22], MDT is well established in the provision of clinical care in most critical care institutions. More importantly, in recent days there has been a drive to have MDT in the management of women experiencing severe endometriosis and who need complex surgery. In fact, the European Society for Human Reproduction and Embryology (ESHRE) and the British Society for Gynaecology Endoscopy (BSGE) have advocated for the implementation of the practice [22]. Further, both ESHRE and BSGE argue that the adoption of the multidisciplinary approach will lead to better results in patient care. On the contrary, there are a wide range of barriers in the implementation of the practice in women care–at the top of the list is the issue of lack of reliable information and knowledge in the practice [23]. Generally, scientific researchers and healthcare practitioners agree that the MDT is a major practice that will catapult clinical care in the society.

This study reports that 42% of cohort has colorectal involvement for which this cohort underwent complex colorectal procedure which involves adhesiolysis, colectomies and rectovaginal fistula repair. From our findings, there is a strong connection between surgical management of severe diseases and the involvement of a multidisciplinary team. According to Avila, MDT is crucial since surgical processes may be complex and require input from colorectal and urologic colleagues. Avila et al. agree with the current findings based on their prior research where they reported 64% of patient had colorectal surgical involvement in women with stage IV endometriosis

[23]. In 2015, Roman et al. reported on 1135 patients with colorectal endometriosis and showed that colorectal segmental resection in 40.4% and sigmoid colon segmental resection in 6.4% respectively [24]. Another series of 35 patients by Bachmann et al. [25] showed 74% (26 patients) colorectal resection for management of endometriosis. Therefore, the role of a multidisciplinary team approach cannot be forfeited in cases of severe surgical treatment [25]. However, several studies showed that after bowel resection there is improvement in pain, gynaecological, and intestinal symptoms and It Is a safe and effective procedure, with an acceptable rate of postoperative complication [26,27].

From other study, they concluded that involvement of specialized multidisciplinary team was crucial in severe cases of endometriosis [28]. Therefore, the role of a multidisciplinary team approach cannot be forfeited in cases of severe endometriosis.

Previous studies have shown that laparotomy and laparoscopy are equally effective in the treatment of endometriosis-associated pain [29]. As we know that laparoscopy is usually associated with a better postoperative recovery, shorter hospital stays, and better cosmesis, hence it was preferred to open surgery by the colorectal surgeon involved in this study. Symptomatic endometriosis, especially deep endometriosis, is best treated by a single laparoscopic operation to restore pelvic anatomy and to improve pain, quality of life, and fertility [30,31]. A randomized trial shows that laparoscopic surgery is safer option when a woman requires colorectal resection and provides a higher pregnancy rates than open surgery. Though, improvement in symptoms and quality of life is somewhat same [32].

Transvaginal sonography plays a significant role in the detection of deep endometriosis of the pelvis [33]. Fertility sparing surgery is the treatment of choice among most symptomatic women who would want to retain their fertility. Sparic et al. argue that the basis for the approach is hinged the negative impact of endometriosis treatment drugs–the drugs interfere with the ovulation process. As illustrated from the current study, the success of the treatment process cannot be ascertained without a proper preoperative diagnosis [34]. In this regard, the findings indicate that a multidisciplinary approach is always vital in severe endometriosis treatment. In fact, the combination of a wide range of skills will improve the outcomes.

The study findings illustrate the role of complex surgery in the reduction of pelvic pain impacting on the quality of life of the patients. In addition, there are a wide range of operations required in the treatment process and this point out towards infiltrating endometriosis involving bowel. The current evidence strongly supports the significance of implementing MDT in relieving endometriosis symptoms [35]. Generally, the treatment of endometriosis within a multidisciplinary approach appears to be safe and exhibits low rate of significant short-term complications. At the same time, the surgical techniques of a multidisciplinary team play a pivotal role in ensuring positive outcomes in the long-run [28].

One of the limitations of this study is the use of a small sample size; therefore, the results must be taken cautiously. However, we are confident about our data as it was collected from one of the busiest colorectal centers in the Country. This is one of the regions where most efficient MDT services have been offered and demonstrated to work. However, further studies are required to fully authenticate the significance and the efficacy of a multidisciplinary team in the treatment of endometriosis.

Conclusion

DIE affects young women for whom chronic pelvic pain, dyspareunia and infertility preservation is a major issue. Studies have shown the surgical treatment of DIE is complex and subject to complications. This should be considered when planning on treatment.

Colorectal input is required in significant volume in gynaecological endometriosis cases. The surgical expertise of a multidisciplinary team plays a vital role in this setting. For patient safety and medico legal cases it is important to have MDT approach. Hence, evaluation of the disease process and subsequent surgical planning is *via* a multidisciplinary team approach.

References

1. Koninckx PR, Martin DC (1992) Deep endometriosis: a consequence of infiltration or retraction or possibly adenomyosis externa? Fertil Steril 58:924–928.
2. Cornillie FJ, Oosterlynck D, Lauweryns JM, Koninckx PR (1990) Deeply infiltrating pelvic endometriosis: histology and clinical significance. Fertil Steril 53:978-983.
3. Simone Ferrero, Giovanni Camerini, Umberto Leone Roberti Maggiore, Pier L Venturini, Ennio Biscaldi, et al. (2011) Bowel endometriosis: Recent insights and unsolved problems. World J Gastrointest Surg 3: 31–38.
4. Ivete de Ávila, Luciana M P Costa, Mario Soto Jr, Ivone D S Filogônio, Márcia M Carneiro (2014) Safe multidisciplinary approach in deeply infiltrating endometriosis (DIE): Is it feasible? JBRA Assist. Reprod 18: 139-143.
5. Vercellini P1, Crosignani PG, Somigliana E, Berlanda N, Barbara G, et al. (2009) Medical treatment for rectovaginal endometriosis: what is the evidence? Hum Reprod 24: 2504-2514.
6. Chopin N, Vieira M, Borghese B, Foulot H, Dousset B, et al. (2005) Operative management of deeply infiltrating endometriosis: results on pelvic pain symptoms according to a surgical classification. J Minim Invasive Gynecol 12: 106-112.
7. Dubernard G, Piketty M, Rouzier R, Houry S, Bazot M, et al. (2006) Quality of life after laparoscopic colorectal resection for endometriosis. Hum Reprod 21: 1243-1247.
8. Mereu L, Ruffo G, Landi S, Barbieri F, Zaccoletti R, et al. (2007) Laparoscopic treatment of deep endometriosis with segmental colorectal resection: short-term morbidity. J Minim Invasive Gynecol 14: 463-469.
9. Stepniewska A, Pomini P, Bruni F, Mereu L, Ruffo G, et al. (2009) Laparoscopic treatment of bowel endometriosis in infertile women. Hum Reprod 24: 1619-1625.
10. Leyland N, Casper R, Laberge P, Singh SS; SOGC (2010) Endometriosis: diagnosis and management. J Obstet Gynaecol Can 32 : S1-32.
11. Dunselman GA, Vermeulen N, Becker C, Calhaz-Jorge C, D'Hooghe T, et al. (2014) ESHRE guideline: Management of Women with Endometriosis. Hum Reprod 29: 400-412.
12. Dubernard G, Piketty M, Rouzier R, Houry S, Bazot M, et al. (2006) Quality of life after laparoscopic colorectal resection for endometriosis. Hum Reprod 21: 1243-1247.
13. Ford J, English J, Miles WA, Giannopoulos T (2004) Pain, quality of life and complications following the radical resection of rectovaginal endometriosis. BJOG 111: 353–356.
14. Fauconnier A, Chapron C (2005) Endometriosis and pelvic pain: epidemiological evidence of the relationship and implications. Hum Reprod Update 11: 595-606.
15. Seracchioli R, Poggioli G, Pierangeli F, Manuzzi L, Gualerzi B, et al. (2007) Surgical outcome and long-term follow up after laparoscopic rectosigmoid resection in women with deep infiltrating endometriosis. BJOG 114: 889-895.

16. Arnaud Wattiez, Marco Puga , Jaime Albornoz , Emilie Faller (2014) Surgical strategy in endometriosis. Best Pract Res Clin Obstet Gynaecol 3: 381–392.
17. D'Hooghe T, Hummelshoj L (2006) Multi-disciplinary centres/networks of excellence for endometriosis management and research: a proposal. Hum Reprod 21: 2743-2748.
18. Simoens S, Dunselman G, Dirksen C, Hummelshoj L, Bokor A, et al. (2012) The burden of endometriosis: costs and quality of life of women with endometriosis and treated in referral centres. Hum Reprod 27: 1292-1299.
19. Groff TR (1989) Classifications. In: Schenken RS, editor. Endometriosis: contemporary concepts in clinical management. Philadelphia: JB Lippincott Company pp: 145-167.
20. American Society for Reproductive Medicine (1997) Revised American Society for Reproductive Medicine classification of endometriosis: 1996. Fertil Steril 67: 817-821.
21. May KE, Conduit-Hulbert SA, Villar J, Kirtley S, Kennedy SH, et al. (2010) Peripheral biomarkers of endometriosis: a systematic review. Hum Reprod Update 16: 651-674.
22. Ugwumadu L, Chakrabarti R, Williams-Brown E, Rendle J, Swift I, et al. (2017) The role of the multidisciplinary team in the management of deep infiltrating endometriosis. Gynecol Surg 14: 15.
23. Ávila I, Costa L, Soto Jr, M Filogônio I, Carneiro M (2014) Safe multidisciplinary approach in deeply infiltrating endometriosis (DIE): is it feasible? JBRA Assist Reprod 18: 139-143.
24. Roman H (2017) A national snapshot of the surgical management of deep infiltrating endometriosis of the rectum and colon in France in 2015: A multicenter series of 1135 cases. J Gynecol Obstet Hum Reprod 46: 159-165.
25. Bachmann R, Bachmann C, Lange J, Krämer B, Brucker SY, et al. (2014) Surgical outcome of deep infiltrating colorectal endometriosis in a multidisciplinary setting. Arch Gynecol Obstet 290: 919-924.
26. Meuleman C, Tomassetti C, D'hoore A, Van Cleynenbreugel B, Penninckx F, et al. (2011) Surgical treatment of deeply infiltrating endometriosis with colorectal involvement. Hum Reprod Update 17: 311-326.
27. Ruffo G, Scopelliti F, Manzoni A, Sartori A, Rossini R, et al. (2014) Long-term outcome after laparoscopic bowel resections for deep infiltrating endometriosis: a single-center experience after 900 cases. Biomed Res Int.
28. Kondo W, Bourdel N, Tamburro S, Cavoli D, Jardon K, et al. (2011) Complications after surgery for deeply infiltrating pelvic endometriosis. BJOG 118: 1678-1679.
29. Crosignani PG, Vercellini P, Biffignandi F, Costantini W, Cortesi I, et al. (1996) Laparoscopy versus laparotomy in conservative surgical treatment for severe endometriosis. Fertil Steril 66: 706-711.
30. Garry R (2004) The effectiveness of laparoscopic excision of endometriosis. Curr Opin Obstet Gynecol 16: 299-303.
31. Jacobson TZ, Duffy JM, Barlow D, Koninckx PR, Garry R (2009) Laparoscopic surgery for pelvic pain associated with endometriosis. Cochrane Database Syst Rev (4): Cd001300.
32. Daraï E, Dubernard G, Coutant C, Frey C, Rouzier R, et al. (2010) Randomized Trial of Laparoscopically Assisted Versus Open Colorectal Resection for Endometriosis: Morbidity, Symptoms, Quality of Life, and Fertility. Ann Surg 251: 1018-1023.
33. Sparic R, Hudelist G, Keckstein J (2011) Diagnosis and treatment of deep infiltrating endometriosis with bowel involvement: A case report. Srp Arh Celok Lek 139: 531-535.
34. Soriano D, Schonman R, Nadu A, Lebovitz O, Schiff E, et al. (2011) Multidisciplinary Team Approach to Management of Severe Endometriosis Affecting the Ureter: Long-term Outcome Data and Treatment Algorithm. J Minim Invasive Gynecol 18: 483-488.
35. Nasser S, Mitchell A, Limdi S, Byrne P, Ahmad G (2016) A Multidisciplinary Team Approach to Severe Endometriosis. J of Minim Invasive Gynecol 23: S181.