

宫颈癌根治术后盆腔淋巴囊肿形成影响因素研究进展

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摘 要

宫颈癌根治联合盆腔淋巴结清扫是宫颈癌标准根治方案, 术中淋巴循环受损、淋巴液回流障碍易诱发盆腔淋巴囊肿, 其发病率报道差异较大, 轻症可自行吸收, 重症可引发疼痛、感染, 延缓术后康复。本文系统梳理宫颈癌术后盆腔淋巴囊肿的形成机制、好发部位, 从手术操作、患者自身基础状态、肿瘤病理与术后辅助治疗三大维度归纳囊肿形成相关影响因素: 开腹手术、单极电刀、扩大淋巴结清扫范围、淋巴结转移、糖尿病、术后低蛋白/贫血、高FIGO分期、术后放化疗为高危因素; 超声刀、Ligasure、术中喷洒铜绿假单胞菌注射液、合理引流管理为保护性因素。现有研究对年龄、高血压等因素结论尚存分歧。临床可通过术前基础疾病纠正、术中精细化淋巴管处理、术后规范引流与营养支持的全程管理模式降低淋巴囊肿发生风险, 为该病预防与个体化干预提供循证依据。

关键词

宫颈癌, 手术, 淋巴囊肿, 影响因素

Research Advances in Risk Factors for Pelvic Lymphocele Formation Following Radical Hysterectomy for Cervical Cancer

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Abstract

Radical hysterectomy combined with pelvic lymphadenectomy serves as the standard radical regimen for cervical cancer. Intraoperative injury to lymphatic circulation and disordered lymphatic reflux readily induce pelvic lymphocysts, whose reported incidence varies widely. Mild lymphocysts can be absorbed spontaneously, while severe ones may cause pain and infection and delay postoperative rehabilitation. This paper systematically sorts out the formation mechanisms and predilection sites of pelvic lymphocysts following cervical cancer surgery. Relevant influencing factors for cyst formation are summarized from three dimensions: surgical procedures, patients' baseline physical conditions, tumor pathology and postoperative adjuvant therapy. Laparotomy, monopolar electrosurgery, extended lymph node dissection scope, lymph node metastasis, diabetes, postoperative hypoalbuminemia/anemia, advanced FIGO stage and postoperative chemoradiotherapy are high-risk factors; ultrasonic scalpel, LigaSure, intraoperative spray of *Pseudomonas aeruginosa* injection and standardized drainage management are protective factors. Conclusions of existing studies regarding factors such as age and hypertension remain controversial. A full-cycle management model including preoperative correction of underlying diseases, refined intraoperative lymphatic vessel handling, standardized postoperative drainage and nutritional support can reduce the risk of lymphocyst occurrence, providing evidence-based references for disease prevention and individualized clinical intervention.

Keywords

Cervical Cancer, Surgery, Lymphocyst, Influencing Factors

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1. 引言

宫颈癌是好发于女性宫颈部位的恶性肿瘤,人乳头瘤病毒(HPV)持续感染是诱发本病的核心高危因素;除此之外,长期吸烟、初次性生活过早、合并免疫缺陷类疾病等,也会不同程度升高该病发病风险[1][2]。宫颈癌根治术+盆腔淋巴结清扫术为当前宫颈恶性肿瘤的主流治疗方案,该术式可切除肿瘤病灶、有效延长患者远期生存时间;但手术操作易损伤盆腔淋巴引流通路,造成淋巴回流动力学障碍,最终诱发术后盆腔淋巴囊肿(Pelvic lymphocyst, PL)形成[3]。现有国内外文献显示,妇科恶性肿瘤术后盆腔淋巴囊肿的发病波动于1%~58%区间[4]。不同研究所得发病率存在明显异质性,主要归因于各研究选取的术后随访节点、影像学检测方案存在差异。部分宫颈癌根治术后合并淋巴囊肿的患者可无特异性临床表现,囊肿积液可自行吸收消散;但仍有部分病例出现术区疼痛、局部组织水肿,严重者继发感染,延缓术后整体恢复进程[5]。现阶段该并发症的发生机制尚无统一、明确的阐释,国内多项临床研究证实其发病风险与手术术式、淋巴结清扫数量存在相关性。基于此,系统归纳宫颈癌术后淋巴囊肿(PL)的各类危险因素,能够为临床尽早实施靶向预防干预提供理论支撑,减轻手术造成的组织损伤,改善患者术后生存质量[6]。

2. 淋巴囊肿形成的机制、流行病学及发生位置

盆腔淋巴引流系统由髂总、闭孔、髂内及髂外淋巴结群组成。行淋巴结清扫术后,术区将形成腹膜

后潜在腔隙, 腔壁由裸露肌层与腹膜组织共同构成。多数患者的该腔隙可自行逐步闭合; 少数患者因离断的淋巴管残端持续渗漏淋巴液, 液体于腔隙内持续蓄积, 进而形成盆腔淋巴囊肿[7]-[10]。Mori 与 Ferguson 借助淋巴管造影检查手段验证了上述研究观点[11]。盆腔淋巴囊肿大多于术后的 3~8 周显现, 仅极少数病例在术后满一年才确诊该并发症[12]。淋巴囊肿的出现会影响患者后续规范化治疗, 显著降低其术后生存质量, 严重时还会威胁患者生命安全, 因此, 我们应该主动制定干预方案, 降低淋巴囊肿的发病概率[13]。

解剖学研究显示, 淋巴囊肿好发于盆腔左侧髂窝, 这可能与人体左侧淋巴引流途径较长、压力较高以及解剖结构特点有关。此外, 若术后淋巴管侧支循环建立缓慢, 或因放化疗等因素导致淋巴管纤维化, 将进一步加重淋巴液回流受阻, 促进囊肿的形成和增大[14]。Song 等人[15]观察 116 名接受淋巴结清扫手术的妇科恶性肿瘤病患, 统计显示淋巴囊肿高发位置为盆腔左侧髂窝, 占全部病例的 67.1%。造成该分布特点的诱因, 推测和左右两侧淋巴回流通畅度差异相关, 左侧通路流通条件更佳。Ayhan 团队[16]的研究也指出, 卵巢癌病灶位于左侧时, 同侧淋巴结转移风险明显高于右侧患病者, 侧面佐证盆腔左侧淋巴管网分布更密集, 淋巴流体回流通道更多。当手术同步清扫两侧盆腔淋巴结时, 左侧髂窝区域更易形成淋巴囊肿。

3. 宫颈癌术后盆腔淋巴囊肿形成的影响因素

3.1. 手术相关因素

3.1.1. 手术方式与入路

传统观点认为, 开腹手术由于视野受限, 淋巴管结扎可能不如微创手术彻底。多项研究证实, 开腹手术是淋巴囊肿形成的独立危险因素, 其发生率显著高于腹腔镜手术组[17][18]。然而, 随着微创技术的发展, 机器人辅助腹腔镜手术虽然提供了更清晰的三维视野和灵活的操作臂, 但李琳等[19]人的研究指出, 机器人手术组的淋巴囊肿发生率并未显著降低, 提示手术方式并非唯一决定因素, 术者的操作习惯同样关键。

3.1.2. 能量器械的选择

术中使用的能量器械对淋巴管残端的封闭效果差异显著。单极电刀因其封闭淋巴管效果较差, 焦痂易脱落, 导致淋巴漏风险增加, 被证实为危险因素。相反, 超声刀、Ligasure 血管闭合系统及双极电凝能更有效地凝固并闭合淋巴管断端, 显著减少术中及术后淋巴液渗漏。许彤彤等[13]人的相关试验结果显示, 手术过程运用 Ligasure 器械, 能够明显减少淋巴囊肿的出现概率。

3.1.3. 淋巴结清扫范围及数目、有无转移

清扫范围越广, 创面越大, 淋巴液漏出风险越高。已有临床研究指出, 同步清扫盆腔与腹主动脉旁淋巴结的肿瘤患者, 术后出现淋巴囊肿的概率显著高于仅清扫盆腔淋巴结的病例[15]。但 Achouti 团队[20]得出相反结论, 他们认为额外开展腹主动脉旁淋巴结清扫并不会提升该并发症的发病概率。许彤彤等[13]的试验数据证明, 清扫腹主动脉周边淋巴结是诱发淋巴囊肿的独立高危条件($OR > 1, P < 0.05$)。若手术同时清扫盆腔与腹主动脉旁两处淋巴结, 对比仅清理盆腔淋巴结的术式, 患者术后长出淋巴囊肿的风险会上升 2.458 倍, 对应 OR 值为 2.458。

Petru 团队[21]研究表明, 存在淋巴结转移的宫颈癌患者术后淋巴囊肿发病风险显著上升, 转移阳性与阴性病例发病率分别为 29%、14%, 组间对比 $P < 0.02$ 。除此之外, 术中清扫淋巴结总数量为关键影响因素, Zikan 等学者[22]构建相关预测模型后证实, 清扫淋巴结数量超过 27 枚, 是诱发有临床症状淋巴囊肿的独立高危因素。盆腔区域切除的淋巴结数量越多, 受损的淋巴管道也会随之增多, 手术中很难将全

部破损淋巴管完整结扎处理。这就会造成大量淋巴液体向外渗出, 堆积在组织缝隙当中, 最终生成淋巴囊肿。

3.1.4. 引流管理与术中辅助措施

引流时间: 引流管留置时间过长(如>7 天)可能在腹膜后形成窦道, 阻碍死腔闭合; 但过早拔除可能导致积液。目前观点倾向于在引流量少时尽早拔除(如 3~7 天内) [23] [24]。

术中用药: 许彤彤等[13]研究发现, 手术创面喷施铜绿假单胞菌药液能够诱发患处无菌炎症反应, 加快创口组织贴合、封闭淋巴管道, 能够有效减少淋巴囊肿产生, 属于一类有利防护条件。

3.2. 患者自身因素

3.2.1. 年龄与高血压、糖尿病

年龄: Khoder 等[25]认为年龄与淋巴囊肿的发生成正相关。许彤彤等[13]开展的对照观察里, 没有出现淋巴囊肿的病患平均年龄为(53.481 ± 9.395)岁, 出现该囊肿的患者平均年龄是(52.503 ± 10.681)岁, 两组数据对比不存在统计学层面的显著区别($P > 0.05$), 由此判定年龄和淋巴囊肿发病不存在明显关联。因此, 需要更多的研究明确年龄与淋巴囊肿发生的关系。

高血压、糖尿病: 目前临床针对高血压、糖尿病与宫颈癌术后淋巴囊肿发病的关联性尚未形成统一、明确结论。王丽[26]等通过对 235 例宫颈癌进行盆腔淋巴结清扫术的患者进行研究发现淋巴囊肿的发生与糖尿病、高血压并没有显著相关性($P > 0.05$)。另有研究证实, 高血压不会提升淋巴囊肿发病概率, 二者不存在关联($P > 0.05$) [13], 而患有糖尿病会加大淋巴囊肿出现的概率($P < 0.05$), 其机制可能与糖尿病患者存在体液免疫及细胞免疫功能障碍有关[27]。

3.2.2. 术后血红蛋白、白蛋白水平

部分学者纳入 98 例接受淋巴清扫手术的恶性肿瘤病例进行分析, 研究结果提示术后白蛋白水平下降是诱发淋巴囊肿的高危因素($P = 0.029$) [28], Song [15]等团队开展相关研究后提出, 术中出血量超出 600 毫升会提升淋巴囊肿发病概率, 术中失血越多, 术后血红蛋白指标往往越低。基于这一依据, 研究者把患者血红蛋白数值纳入观察指标, 数据分析能够看出, 该指标偏低的人群术后更易产生淋巴囊肿, 因此, 该指标为淋巴囊肿发生的独立危险因素($P = 0.045$)。术后低蛋白血症与贫血状态均可升高该并发症发病风险, 究其机制, 血清白蛋白、血红蛋白水平下降会造成血浆胶体渗透压下降, 促使血管内液体向外渗漏至组织间隙, 进而促成淋巴囊肿形成[29]。

3.3. 肿瘤生物学特性及术后辅助治疗

3.3.1. 临床分期(FIGO 分期)

有研究指出临床分期是淋巴囊肿发生的危险因素($P < 0.05$), 临床分期越晚, 淋巴囊肿发生率越高[30]。FIGO 分期越晚, 意味着肿瘤范围越广, 根治性手术需要切除的范围(包括子宫旁组织)更大、盆腔淋巴结清扫更彻底, 术后淋巴回流中断的范围也更广, 因此淋巴囊肿的发生率随之升高[31] [32]。

3.3.2. 术后放化疗

多项研究明确指出, 对于存在术后高危因素的早期宫颈癌患者, 辅助放化疗可提高生存率, 是当前的标准治疗方案[33]。对于存在淋巴血管间隙浸润、深间质浸润、特殊组织学类型(腺癌成分)、切缘阳性或切缘过近、肿瘤大小等高危因素的患者, 推荐术后行辅助放疗(含或不含化疗) [34]。现阶段针对肿瘤术后辅助放化疗是否影响淋巴囊肿生成仍存有多分歧。一项回顾性队列分析结果证实, 术后实施放射治疗和该并发症的产生具备明显关联性, 会提高淋巴囊肿的发病概率[30]。Kim 团队[35]回顾分析 264 例实

施盆腔淋巴结清扫的妇科肿瘤患者后提出, 术后放疗属于诱发淋巴囊肿的高危因素。现有多项研究数据显示, 术后化疗同样与淋巴囊肿形成存在明显相关性[36]。

4. 结束语

综上所述, 宫颈癌根治术后盆腔淋巴囊肿的形成是手术创伤、患者基础状态及肿瘤生物学特性多因素共同作用的结果。可构建“淋巴损伤-修复失衡”整合理论模型解释各因素交互机制: 手术相关因素为始动触发因子, 开腹手术、单极电刀、大范围淋巴结清扫直接造成淋巴管大面积断裂渗漏, 形成淋巴液蓄积的解剖基础; 肿瘤高 FIGO 分期、淋巴结转移放大手术创伤程度, 术后放化疗通过诱导淋巴管纤维化抑制侧支循环重建, 持续加重回流障碍; 糖尿病、术后低蛋白/贫血作为修复抑制因子, 降低创面粘连愈合能力、削弱血浆胶体渗透压, 三重通路叠加阻断腹膜后死腔闭合, 最终促成囊肿生成。手术方式与能量器械的选择、淋巴结清扫范围、糖尿病、术后营养状态及放化疗等是目前较为公认的独立影响因素。左侧髂窝为淋巴囊肿好发部位, 临床随访中应予以重点关注。尽管现有研究已识别出诸多危险因素, 但各研究间因样本量、诊断标准及随访时间的差异, 部分因素(如年龄、高血压)的结论仍存在分歧, 有待大样本、多中心的前瞻性研究进一步验证。临床实践中, 应重视术前高危因素筛查, 对合并糖尿病、低蛋白血症的患者积极纠正基础状态; 术中合理选择能量器械, 规范淋巴结清扫范围, 重视淋巴管断端的精细化处理, 并可考虑应用生物制剂促进创面粘连; 术后加强营养支持与引流管理, 辅以个体化的随访监测。通过“术前评估-术中优化-术后干预”的全程管理策略, 有望降低盆腔淋巴囊肿的发生率, 减少相关并发症, 改善宫颈癌患者的术后生活质量与远期预后。

参考文献

- [1] Sansone, M., Saccone, G., Migliucci, A., Saviano, R., Capone, A., Maruotti, G.M., *et al.* (2017) Screening for Cervical Carcinoma in HIV-Infected Women: Analysis of Main Risk Factors for Cervical Cytologic Abnormalities. *Journal of Obstetrics and Gynaecology Research*, **43**, 352-357. <https://doi.org/10.1111/jog.13225>
- [2] 李媛媛, 黄蓓蓓, 夏燕, 等. 老年宫颈癌患者肿瘤细胞侵犯周围神经与临床病理特征的关系及对治疗预后的影响[J]. 中国老年学杂志, 2021, 41(21): 4657-4660.
- [3] Togami, S., Furuzono, N., Mizuno, M., Yanazume, S. and Kobayashi, H. (2024) Long-Term Outcomes of Sentinel Lymph Node Navigation Surgery for Early-Stage Cervical Cancer. *International Journal of Clinical Oncology*, **29**, 1740-1745. <https://doi.org/10.1007/s10147-024-02605-0>
- [4] Weinberger, V., Cibula, D. and Zikan, M. (2014) Lymphocele: Prevalence and Management in Gynecological Malignancies. *Expert Review of Anticancer Therapy*, **14**, 307-317. <https://doi.org/10.1586/14737140.2014.866043>
- [5] Lee, Y.J., Lee, I.J., Park, S., Kim, T. and Lim, M. (2022) Transvaginal Lymphatic Embolization of the Fistula between a Pelvic Lymphocele and the Vaginal Stump Following Radical Hysterectomy and Sentinel Pelvic Lymph Node Biopsy in a Patient with Cervical Cancer: A Case Report. *Molecular and Clinical Oncology*, **16**, Article No. 49. <https://doi.org/10.3892/mco.2021.2482>
- [6] 邵巧云, 王文凤, 董国锋, 闫红丽. 早期宫颈癌患者术后盆腔淋巴囊肿形成的因素分析[J]. 实用癌症杂志, 2022, 37(11): 1859-1862.
- [7] Mori, N. (1955) Clinical and Experimental Studies on the So-Called Lymphocyst which Develops after Radical Hysterectomy in Cancer of the Uterine Cervix. *Journal of the Japanese Obstetrical and Gynecological Society*, **2**, 178-203.
- [8] Ilancheran, A. and Monaghan, J.M. (1988) Pelvic Lymphocyst—A 10-Year Experience. *Gynecologic Oncology*, **29**, 333-336. [https://doi.org/10.1016/0090-8258\(88\)90232-6](https://doi.org/10.1016/0090-8258(88)90232-6)
- [9] Metcalf, K.S. and Peel, K.R. (1993) Lymphocele. *Annals of the Royal College of Surgeons of England*, **75**, 387-392.
- [10] Rutledge, F., Dodd, G.D. and Kasilag, F.B. (1959) Lymphocysts: A Complication of Radical Pelvic Surgery. *American Journal of Obstetrics and Gynecology*, **77**, 1165-1175. [https://doi.org/10.1016/0002-9378\(59\)90356-4](https://doi.org/10.1016/0002-9378(59)90356-4)
- [11] Ferguson, J.H. and Maclure, J.G. (1961) Lymphocele Following Lymphadenectomy. *American Journal of Obstetrics and Gynecology*, **82**, 783-792. [https://doi.org/10.1016/s0002-9378\(16\)36142-7](https://doi.org/10.1016/s0002-9378(16)36142-7)
- [12] Zhang, L., Li, X., Wu, H., Lv, K., Zeng, C. and Song, H. (2020) Endovascular Stent Treatment of the Iliac Vein Stenosis

- Caused by a Pelvic Lymphocele Secondary to Gynecologic Malignancy. *Journal of Interventional Medicine*, **3**, 192-194. <https://doi.org/10.1016/j.jimed.2020.08.004>
- [13] 许彤彤. 妇科恶性肿瘤盆腔淋巴结清除术后淋巴囊肿形成的影响因素分析[D]: [硕士学位论文]. 沈阳: 中国医科大学, 2022.
 - [14] Kuroda, K., Yamamoto, Y., Yanagisawa, M., Kawata, A., Akiba, N., Suzuki, K., *et al.* (2017) Risk Factors and a Prediction Model for Lower Limb Lymphedema Following Lymphadenectomy in Gynecologic Cancer: A Hospital-Based Retrospective Cohort Study. *BMC Women's Health*, **17**, Article No. 50. <https://doi.org/10.1186/s12905-017-0403-1>
 - [15] Song, S.Y., Park, M., Kang, B.H., Yang, J.B., Ko, Y.B., Lee, M., *et al.* (2020) Distribution of Lymphocele Following Lymphadenectomy in Patients with Gynecological Malignancies. *Obstetrics & Gynecology Science*, **63**, 700-708. <https://doi.org/10.5468/ogs.20110>
 - [16] Ayhan, A., Yüksel, H. and Dursun, P. (2010) The Spread Pattern of Right and Left Epithelial Ovarian Cancers. *European Journal of Gynaecological Oncology*, **31**, 654-657.
 - [17] 李睿颢. 宫颈癌盆腔淋巴结清扫手术损伤及淋巴系统并发症的回顾性分析[D]: [硕士学位论文]. 武汉: 华中科技大学, 2022.
 - [18] 张亚男, 李斌, 王亚婷, 等. 腹腔镜子宫广泛性切除术治疗早期宫颈腺癌的疗效及安全性评价[J]. 中华妇产科杂志, 2020, 55(9): 600-608.
 - [19] 李琳. 机器人辅助腹腔镜妇科恶性肿瘤术后盆腔淋巴囊肿形成的影响因素分析[D]: [硕士学位论文]. 郑州: 郑州大学, 2021.
 - [20] Achouri, A., Huchon, C., Bats, A.S., Bensaid, C., Nos, C. and Lécuru, F. (2013) Complications of Lymphadenectomy for Gynecologic Cancer. *European Journal of Surgical Oncology (EJSO)*, **39**, 81-86. <https://doi.org/10.1016/j.ejso.2012.10.011>
 - [21] Petru, E., Tamussino, K., Lahousen, M., Winter, R., Pickel, H. and Haas, J. (1989) Pelvic and Paraaortic Lymphocysts after Radical Surgery Because of Cervical and Ovarian Cancer. *American Journal of Obstetrics and Gynecology*, **161**, 937-941. [https://doi.org/10.1016/0002-9378\(89\)90757-6](https://doi.org/10.1016/0002-9378(89)90757-6)
 - [22] Zikan, M., Fischerova, D., Pinkavova, I., Slama, J., Weinberger, V., Dusek, L., *et al.* (2015) A Prospective Study Examining the Incidence of Asymptomatic and Symptomatic Lymphoceles Following Lymphadenectomy in Patients with Gynecological Cancer. *Gynecologic Oncology*, **137**, 291-298. <https://doi.org/10.1016/j.ygyno.2015.02.016>
 - [23] Wang, J., Gao, H. and Zhao, B. (2025) Prediction Model of Pelvic Lymphocysts after Cervical Cancer Surgery Based on Logistic Regression or Support Vector Machine. *Chinese Journal of Clinical Research*, **38**, 695-699, 705.
 - [24] Charoenkwan, K. and Kietpeerakool, C. (2014) Retroperitoneal Drainage versus No Drainage after Pelvic Lym-Phadenectomy for the Prevention of Lymphocyst Formation in Patients with Gynaecological Malignancies. *Cochrane Database of Systematic Reviews*, No. 6, CD007387.
 - [25] Khoder, W.Y., Trottmann, M., Buchner, A., Stuber, A., Hoffmann, S., Stief, C.G., *et al.* (2011) Risk Factors for Pelvic Lymphoceles Post-Radical Prostatectomy. *International Journal of Urology*, **18**, 638-643. <https://doi.org/10.1111/j.1442-2042.2011.02797.x>
 - [26] 王丽. I a-II a 期宫颈癌根治术后并发盆腔淋巴囊肿的影响因素分析[J]. 山东医药, 2018, 58(26): 73-75.
 - [27] 李明霞, 刘秀玲, 余静丽. 早期宫颈癌患者根治术后并发盆腔淋巴囊肿的危险因素[J]. 海南医学, 2024, 35(15): 2176-2179.
 - [28] Ma, X., Wang, Y., Fan, A., Dong, M., Zhao, X., Zhang, X., *et al.* (2018) Risk Factors, Microbiology and Management of Infected Lymphocyst after Lymphadenectomy for Gynecologic Malignancies. *Archives of Gynecology and Obstetrics*, **298**, 1195-1203. <https://doi.org/10.1007/s00404-018-4914-2>
 - [29] Zhao, T.Y., Jiang, W., Liu, J.M., Liu, Z. and Xie, P. (2026) Risk Factors Associated with Postoperative Lymphocele in Patients with Gynecological Malignant Tumors: A Systematic Review and Meta-Analysis. *Frontiers in Oncology*, **16**, Article ID: 1828153. <https://doi.org/10.3389/fonc.2026.1828153>
 - [30] Chen, H.H., Ting, W.H., Lin, H. and Hsiao, S. (2019) Predictors of Lymphoceles in Women Who Underwent Laparotomic Retroperitoneal Lymph Node Dissection for Early Gynecologic Cancer: A Retrospective Cohort Study. *International Journal of Environmental Research and Public Health*, **16**, Article 936. <https://doi.org/10.3390/ijerph16060936>
 - [31] 施红超, 房桂英. 子宫颈癌术后盆腔淋巴囊肿及辅助治疗期间囊肿并发感染的危险因素研究[J]. 实用肿瘤杂志, 2017, 32(6): 536-539.
 - [32] Fu, J., Li, P., Yao, J., Wang, Z., Wang, S., Lv, Q., *et al.* (2025) The Potential for De-Escalation Radical Surgery in Women with Stage IB2 Cervical Cancer (FIGO 2018): A Multi-Institutional Experience of 63,926 Cases over a 14-Year Period in China. *BMC Surgery*, **25**, Article No. 187. <https://doi.org/10.1186/s12893-025-02917-6>

-
- [33] Kim, S.W., Chun, M., Ryu, H., Chang, S., Kong, T.W., Oh, Y., *et al.* (2017) Long-Term Results of Early Adjuvant Concurrent Chemoradiotherapy for High-Risk, Early Stage Uterine Cervical Cancer Patients after Radical Hysterectomy. *BMC Cancer*, **17**, Article No. 297. <https://doi.org/10.1186/s12885-017-3299-0>
- [34] Zhao, N., Li, Y., Chen, X., Ma, J., Luo, W. and Li, Y. (2024) Evaluating the Clinical Efficacy and Safety of Concurrent Chemoradiotherapy with Cisplatin and Nab-Paclitaxel in Postoperative Early-Stage Cervical Cancer. *Journal of Cancer Research and Clinical Oncology*, **150**, Article No. 233. <https://doi.org/10.1007/s00432-024-05764-9>
- [35] Kim, H.Y., Kim, J.W., Kim, S.H., Kim, Y.T. and Kim, J.H. (2004) An Analysis of the Risk Factors and Management of Lymphocele after Pelvic Lymphadenectomy in Patients with Gynecologic Malignancies. *Cancer Research and Treatment*, **36**, 377-383. <https://doi.org/10.4143/crt.2004.36.6.377>
- [36] Charoenkwan, K. and Kietpeerakool, C. (2017) Retroperitoneal Drainage versus No Drainage after Pelvic Lymphadenectomy for the Prevention of Lymphocyst Formation in Women with Gynaecological Malignancies. *Cochrane Database of Systematic Reviews*, No. 6, CD007387. <https://doi.org/10.1002/14651858.cd007387.pub4>