Supplementary material

Supplementary Table 1. Vaginal leiomyoma, leiomyosarcoma and STUMP, relevant literature background.

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|  | Age | Symptoms | Position | Size | Diagnostic Tool | Histological Peculiarities | IHC Features | Surgery | Follow-up/Outcome |
| LEIOMYOMA | | | | | | | | | |
| Chen *et al*. [61] 2023 | 52 | Asymptomatic | Left Anterior wall | 2.2 cm | US | n/r | n/r | Vaginal approach | n/r |
| Tarrab *et al*. [20] 2022 | 30 | Dyspareunia  vaginal discharge | Left wall | n/r | US | spindle- shaped smooth muscle without necrosis; no mitotic activity | n/r | Vaginal approach | n/r |
| Shah *et al*. [62] 2022 | 48 | Asymptomatic | Right wall | 4 cm | n/r | smooth muscles arranged in intersecting bundles and fascicles without atypia, mitosis, and necrosis | n/r | Vaginal approach | n/r |
| Gao *et al*. [63] 2022 | 48 | vaginal bleeding and a prolapsed hard vaginal mass; stress urinary incontinence | Anterior wall | 6.5 cm | MRI–FNB- colposcopy | n/r | Desmin; vimentin; smooth muscle actin, negative for CD34 S100 and STAT6  ER positive  PR positive | Vaginal approach | FU 3 months negative |
| T Benjelloun *et al*. [64] 2022 | 65 | pelvic heaviness; dyspareunia; increasing in size | Anterior wall | 2.8 cm | US-MRI | n/r | n/r | vaginal approach | n/r |
| Abrar *et al*. [65] 2021 | 35 | Pregnant women with history of Anterior colporrhaphy for vaginal mass avoiding dysfunction, high- grade fever, inability to pass urine | Anterior wall | 20 cm | US-cystoscopy | Vaginal leiomyoma with extensive hydropic changes and infarction;  No atypia; mitotic index 1; No tumor necrosis | ASMA; desmin. | Cesarean section due to infection; vaginal approach | Neonatal dead due to postnatal sepsis.  FU 3months , negative |
| Liu *et al*. [36] 2021 | 33 | Asymptomatic | Upper Anterior wall | 3.4 cm | US-Cystoscopy | n/r | n/r | vNOTES | FU 3months negative |
| Shrestha *et al*. [66] 2021 | 49 | difficulty in walking; chronic pelvic pain | Left wall | 12 cm | MRI–US-sigmoidoscopy-FNB | spindle-cell without necrosis; Mild degree atypia; mitotic index 0 |  | Vaginal approach | FU 1 month, negative |
| Liu *et al*. [67] 2021 | 24 | dyspareunia | Anterior wall | 6.6 | US-MRI-FNB | Spindled leyomioma | oestrogens receptor (ER) and progesterone receptor (PR) | Vaginal approach | FU 3 months negative |
| Ho *et al*. [31] 2020 | 60 | Asymptomatic | pelvic mass form vaginal cuff | 7.2 cm | US-MRI | Fascicular pattern leyomioma | Vimentin; actin; SMA | Single-port laparoscopic tumor excision + vNOTES | FU 1 month negative |
| Egbe *et al*. [68] 2020 | 36 | Dysuria, dyspareunia, vaginal discharge | Anterior wall | 6 cm | US-Cystoscopy | n/r | n/r | Vaginal approach | n/r |
| Zhang *et al*. [37] 2020 | 34 | sexual discomfort | Upper Anterior wall | 5 cm | n/r | n/r | n/r | Laparoscopic procedure | not report any symptoms, pregnant at the time of the 20th month, FU negative |
| Swanson *et al*. [10] 2020 | n/r | n/r | n/r | 3.4 cm | n/r | Cellular leiomyoma; Mild degree atypia, mitotic index 0, Spindled | n/r | Vaginal approach | No recurrence |
|  | n/r | n/r | n/r | 2.5 cm | n/r | Cellular leiomyoma; Mild to moderate degree atypia; mitotic index 2; Spindled focally myxoid | Desmin and h-Caldesmon: Diffusely positive; CD10 and CD34: Negative | Vaginal approach | No recurrence |
|  | n/r | n/r | n/r | n/r | n/r | Leiomyoma with bizarre nuclei; Mild to moderate degree atypia; mitotic index 1; Spindled | Desmin and SMA: Diffusely positive; S100 protein and HMB45: Negative | Vaginal approach | No recurrence |
|  | n/r | n/r | n/r | n/r | n/r | Leiomyoma with bizarre nuclei; Mild to moderate degree atypia; mitotic index 2; Spindled | n/r | Vaginal approach | Margin positive, No recurrence |
|  | n/r | n/r | n/r | 4.5 cm | n/r | Leiomyoma with bizarre nuclei; Mild to moderate /severe degree atypia; mitotic index 1; Spindled | Desmin and h-Caldesmon: Diffusely positive; ALK: Negative; Fumarate hydratase: Retained | Vaginal approach | No recurrence |
| Patil *et al*. [69] 2019 | 45 | constipation | Left lower wall | 3 cm | US | smooth muscle fibers arranged in whorled pattern. | n/r | Vaginal approach | n/r |
| Yordanov *et al*. [70] 2019 | 47 | Pelvic pressure and pain | Anterior wall | 5 × 7 cm | US | n/r | n/r | Vaginal approach | n/r |
|  | 41 | Pelvic pain | Posterior wall | 4 × 6 cm | US | n/r | n/r | Vaginal approach | n/r |
|  | 46 | Dyspaurenia | Posterior wall | 2 cm | US | n/r | n/r | Vaginal approach | n/r |
| Ntavela *et al*. [14] 2019 | 47 | n/r | Anterior wall | 3 cm | US | n/r | n/r | Vaginal approach | n/r |
|  | 52 | Dyspareunia, abdominal and perineal pain | Posterior wall | 8 cm | n/r | n/r | n/r | Vaginal approach | n/r |
| Dunphy *et al*. [38] 2023 | 40 | Heavy vaginal bleeding, dyspareunia, Anemia | Anterior wall | 4 cm | MRI | Spindle cells hydropic leiomyoma; No mitotic activity, no necrosis | Actin  Desmin  Vimentin  Estrogen and progesterone positivity | Removal of vaginal lesion | n/r |
| Giovannopoulou *et al*. [71] 2023 | 38 | n/r | Medial paravesical space | 8 cm | MRI | n/r | n/r | Laparoscopic approach | n/r |
|  | 29 | n/r | Medial paravesical space | 4 cm | MRI | n/r | n/r | Laparoscopic approach | n/r |
|  | 47 | n/r | Medial paravesical space | 6 cm | MRI | n/r | n/r | Laparoscopic approach | n/r |
| Upadhyay *et al*. [72] 2018 | 14 | Difficulty in micturition, abnormal vaginal bleeding, hematuria | Anterior wall | 10 cm | US + MRI + biopsy | vaginal leiomyoma with areas of necrosis and hyaline degeneration | n/r | Vaginal approach | n/r |
| Gupta *et al*. [73] 2017 | 44 | Vaginal mass, polymenorrhea, abdominal pain | Postero lateral wall | 6 × 5 cm | US | Vaginal leiomyoma with interlacing bundles of smooth muscle cells separated by vascularized connective tissue. No atypia, mitosis or necrosis | n/r | Vaginal approach | n/r |
| Hsayaoui *et al*. [74] 2017 | 24 | Vaginal  bleeding | Anterior wall | 5 × 5 cm | US + MRI | vaginal leiomyoma | n/r | Vaginal approach | No recurrence |
| Wethmara *et al*. [75] 2017 | 41 | Vaginal mass, vaginal  bleeding, vaginal discharge | Left wall | 8 × 5 cm | MRI + biopsy | Vaginal leiomyoma with surface ulceration of the overlying epithelium | n/r | Vaginal approach | n/r |
| Costa Ribeiro *et al*. [76] 2017 | 39 | Pelvic pain, vaginal discharge,  dyspareunia | Posterior wall | 5 cm | biopsy | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Tanaka *et al*. [39] 2017 | 43 | Asymptomatic. Incidental finding at US and transvaginal physical examination | Posterior wall | 8 × 6 cm | US + CT scan + MRI + sigmoidoscopy + biopsy | Epithelioid leiomyoma | Partially positive for alpha-smooth muscle actin, desmin and hcaldesmon; negative for pan cytokeratin antibody n°AE1/AE3, melanin A and HMB45, CD34. Positive for Estrogen and progesterone receptor.  Ki-67 less than 5% | TAH + BSO + partial vaginectomy | NED for more than 14 months. |
| Agarwal *et al*. [77] 2016 | 43 | urinary  frequency | Anterior wall | 4 × 5 cm | US + MRI | Vaginal leiomyoma | N/R | Vaginal approach | n/r |
| Asnani *et al*. [40] 2016 | 30 | Purulent discharge | Anterior wall | 12 × 10 cm | US | Vaginal leiomyoma with hypercellular and myxoid areas. Moderate inflammatory infiltrates comprised of lymphocytes, and polymorphs with few plasma cells | Negative for CD34, CD117 and DOG1 | TAH + removal of vaginal lesion | n/r |
| Kaba *et al*. [78] 2016 | 45 | Abnormal vaginal bleeding | Anterior wall | 4 × 3 cm | US | Vaginal leiomyoma | n/r | Vaginal approach | No recurrence |
| Spurthi *et al*. [79] 2016 | 45 | Vaginal mass | Anterior wall | 6 × 4 cm | US | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
|  | 35 | Difficulty in micturition | Anterior wall | 4 × 5 cm | n/r. | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Zuber *et al*. [80] 2016 | 23 | Hip joint pain | Left wall | 5 × 5 cm | US + MRI | Vaginal leiomyoma underlying the squamous epithelium | n/r | Vaginal approach | No recurrence |
| Bansal *et al*. [81] 2015 | 40 | Vaginal mass, vaginal  discharge, dysuria, incomplete  voiding | Right- Anterior wall | 10 × 8 cm | US + MRI | Vaginal leiomyoma with foci of necrosis and myxoid degeneration | n/r | Vaginal approach | n/r |
| Kant *et al*. [82] 2015 | 40 | Vaginal mass, abdominal pain | Anterior wall | 5 × 5 cm | US + MRI | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Koranne *et al*. [83] 2015 | 35 | Vaginal mass, dyspareunia | Anterior wall | 3 cm | US | Vaginal leiomyoma with degenerative changes underlying the squamous epithelium | n/r | Vaginal approach  with bladder injury | n/r |
| Jahan *et al*. [28] 2021 | 31 | Vaginal mass | Anterior wall | 3 × 3 cm | US + hysteroscopy + Diagnostic laparoscopy | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Manjula and Jyothi 2015 [84] | 22 | Dyspareunia, vaginal bleeding, urinary retention | Anterior wall | 6 × 6 cm | MRI | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Sanyal *et al*. [85] 2015 | 60 | Right iliac fossa pain | Posterior wall | 4 × 3 cm | US + biopsy | Vaginal leiomyoma;  nuclear pleomorphism and occasional mitotic activity; focal areas of hyaline degeneration. | n/r | Vaginal approach | n/r |
| Wu *et al*. [86] 2015 | 44 | Vaginal mass | Anterior wall | 3 × 4 cm | MRI | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Behura *et al*. [87] 2014 | 40 | Vaginal mass | Anterior wall | 6 × 5 cm | US, CT scan | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Goyal *et al*. [41] 2014 | 50 | Vaginal mass, profusely bleeding and shock | Anterior wall | 10 × 10 cm |  | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Sim *et al*. [88] 2014 | 43 | Vaginal mass, pelvic pain | Anterior wall | 7 × 5 cm | US + CT scan + MRI + biopsy | Vaginal leiomyoma composed of interlacing fascicles of spindles cells and ulceration of luminal surface | Positive for smooth muscle actin | Vaginal approach | n/r |
| Yilmaz *et al*. [89] 2014 | 39 | Vaginal mass, dyspareunia | Left wall | 2 | - | Vaginal leiomyoma without cellular atypia or mitotic activity | n/r | Vaginal approach | n/r |
|  | 75 | Vaginal mass | Anterior wall | 2 | - | Vaginal leiomyoma composed by fusiform smooth muscle cells with abundant pink cytoplasm and spindle shaped nuclei; mitotic figure were rare | n/r | Vaginal removal and vaginal hysterectomy | n/r |
| Crowley *et al*. [21] 2013 | 15 | Vaginal bleeding,  abdominal pain, dizziness | Anterior wall | n/r | CT scan + MRI + vaginoscopy, sigmoidoscopy, cystoscopy, biopsy | Atypical myxoid leiomyoma | n/r | Laparotomy: removal of mass, cystectomy, sigmoid pouch, vaginal reconstruction | n/r |
| Dane *et al*. [90] 2012 | 22 | Prolapsed vaginal mass grown during pregnancy | Anterior wall | 5 × 3 cm | US + MRI | Vaginal leiomyoma | Positive for smooth muscle actin and Ki-67 | Vaginal approach | n/r |
| Chakrabarti *et al*. [91] 2011 | 38 | Lower abdominal pain, abnormal vaginal bleeding, dyspareunia | Upper vagina | 6 × 5 cm | US | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Shrivastava *et al*. [92] 2011 | 48 | Vaginal mass, urinary retention | Anterior wall | 8 × 4 cm | US + CT scan | Vaginal leiomyoma | n/r | Vaginal removal and vaginal hysterectomy | n/r |
| Hubert *et al*. [29] 2010 | 52 | Vaginal mass | Postero-lateral wall | 2 × 1 cm | MRI | Leiomyoma | n/r | Vaginal approach | n/r |
|  | 25 | Vaginal mass | Anterior wall | 2 × 2 cm | MRI | Leiomyoma | n/r | Vaginal approach | n/r |
|  | 46 | Vaginal mass | Antero-lateral wall | 3 × 2 cm | MRI | Leiomyoma | n/r | Vaginal approach | n/r |
|  | 52 | Vaginal mass | Right Anterior wall | 2 × 1 cm | MRI | Leiomyoma | n/r | Vaginal approach | n/r |
| Malik *et al*. [43] 2010 | 35 | Abnormal vaginal bleeding | Right fornix | 5 × 5 cm | US | Vaginal leiomyoma | n/r | TAH + removal of vaginal lesion | n/r |
| Nidhanee *et al*. [93] 2009 | 55 | Pressure in suprapubic area | Anterior wall | 3 × 4 cm | US | Vaginal leiomyoma without pleomorphism/mitotic activity | n/r | Vaginal approach with bladder injury | n/r |
| Scialpi *et al*. [94] 2009 | 27 | Vaginal mass, dyspareunia | Anterior wall | 7 cm | US + MRI | Leiomyoma with abundant amorphous myxoid material between the smooth muscle cells. | Positive for muscle-specific actin | Vaginal approach | No recurrence |
| Bae *et al*. [95] 2008 | 48 | Vaginal mass | Anterior wall | 5 × 5 cm | US + MRI | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Theodoridis *et al*. [96] 2008 | 42 | Vaginal mass, dyspareunia | Anterior wall | 3 cm | US + CT scan | Vaginal leiomyoma | n/r | Vaginal approach | No recurrence |
| Vlahos *et al*. [42] 2008 | 33 | Dysmenorrhea | Posterior wall | 7 × 6 cm | MRI | Vaginal leiomyoma composed by cells with large, hyperchromatic, irregular, often multiple nuclei and eosinophilic intranuclear cytoplasmic inclusions | Positive for desmin, smooth muscle actin, and muscle-specific actin (HHF-35) expression.  Less than 2% of the neoplastic cells were positive for Ki-67 expression. | TAH + removal of vaginal lesion | No recurrence |
| Agarwal *et al*. [27] 2008 | 26 | Menometrorrhagia | - | 8 × 6 cm | - | leiomyoma | n/r | TAH + removal of vaginal lesion | n/r |
| Jeong Park *et al*. [97] 2007 | 30 | Cyclic urinary retention | Anterior wall | 5 × 5 cm | US + CT scan | leiomyoma | Negative for cytokeratin, S100, and CD 34; positive for actin. | Vaginal approach | n/r |
| Sherer *et al*. [98] 2007 | 47 | Asymptomatic | Anterior wall | 3 cm | US + MRI | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Do Amaral CC *et al*. [99] 2023 | 48 | Vaginal bleedingvaginal mass | Anterior wall | 4 cm | 3D US | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Bapuraj *et al*. [30] 2006 | 26 | Vaginal mass, dyspareunia, frequency, nocturia, difficulty in micturition | Lateral wall | 11 × 9 cm | MRI | Vaginal leiomyoma with hyaline and cystic degeneration. | n/r | Embolization and vaginal reconstruction | No recurrence |
| Liu Y *et al*. [100] 2021 | 24 | Vaginal mass, dyspareunia | Anterior wall | 6 × 5 cm | US + CT scan + MRI | Vaginal leiomyoma | n/r | Vaginal approach, GnRH agonist preparation | n/r |
| Tsobanidou and Dermitzakis 2004 [22] | 63 | Vaginal mass | Anterior wall | - | US | leiomyoma | n/r | Vaginal approach | n/r |
| Gowri *et al*. [44] 2003 | 35 | Gluteal swelling, vaginal discharge | Right wall | 25 × 20 cm | US + CT scan | Vaginal leiomyoma | n/r | TAH + removal of vaginal lesion | n/r |
| Sesti *et al*. [101] 2003 | 32 | Dyspareunia, vaginal pain | Left wall | 3 cm/3 cm (two masses) | US | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Hameed *et al*. [102] 2003 | 18 | Vaginal mass | Anterior wall | 7 cm | CT scan | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| Shimada *et al*. [45] 2002 | 37 | Asymptomatic | Anterior wall | 5 cm | MRI | Vaginal leiomyoma | n/r | Exploratory laparotomy and TAH + vaginal approach | n/r |
| Naidoo 2000 [46] | 62 | Lower abdominal and back pain, vaginal mass | Posterior wall | 4 × 4 cm | - | Vaginal leiomyoma | Positive for actin and desmin | TAH + vaginal approach | No recurrence |
| Leron *et al*. [103] 2000 | 50 | Vaginal mass, vaginal bleeding and urinary complaints | Anterior wall | 6 cm | US + MRI + Urethrographyand urethrocystoscopy | Vaginal leiomyoma | n/r | Vaginal approach | n/r |
| LEIOMYO-SARCOMA | | | | | | | | | |
| Moukhlissi *et al*. [53] 2023 | 36 | Metrorrhagia, dysuria | Prolapsed vaginal mass | 20 cm | CT-scan | Stage III leiomyosarcoma | n/r | 2 cycles of neoadjuvant chemotherapy (gemcitabine and docetaxel) followed by surgical excision  Re-operation with a tumor for infiltrated part of the Anterior face of the lower rectum and realization of a Left iliac colostomy | n/r |
| Laforga *et al*. [32] 2023 | 43 | Vaginal bleeding and discharge | n/r | 6 cm | n/r | Vaginal leiomyosarcoma | n/r | Local excision  Recurrence 11 months and TAH + BSO + partial vaginectomy | n/r |
| Yuana *et al*. [35] 2022  15 cases | 48 | Vaginal mass (9), Vaginal bleeding (4), Difficulty with defecation (2) | Anterior wall (6), Lateral (6), Posterior (2) and vaginal cuff (1) | <5 cm (5), >5 cm (5) | n/r | -Leiomyosarcoma (9)  -Ewing’s sarcoma (2)  -Rhabdomyosarcoma (2)  -Undifferentiated sarcoma (1)  -Malignant peripheral schwannoma (1)  -Stage I (10)  -Stage II (1)  -Stage III (2)  -Stage IV (2) | n/r | -Simple resection (11)  -No surgery (4)  -Surgery alone (4)  -Surgery + chemo (5)  -Surgery + radio (1)  -Surgery + chemo + radio (1)  -Chemo alone (2)  -Chemo + radio (2) | Recurrence (13)  No recurrence (2) |
| Vitantri *et al*. [104] 2022 | 46 | Mass protruding from vagina and vaginal discharge | Protruding mass | 15 cm | US | Proliferating myoma with necrotic mixed, hemorrhagic area. Cells with round to spindle nuclear–vescicular pleomorphic and hyperchromatic with marked nuclei and atypical mitoses | n/r | TAH+ BSO + partial vaginectomy | n/r |
| Saadi *et al*. [105] 2021 | 31 | Post-coital bleeding | Middle-upper third of the vagina | 5 cm | MRI + CT-scan | Stage I leiomyosarcoma  Mitotic activity index: 10  mitosis/10 high power field) no lymphovascular  space invasion, presence of necrosis. | Positivity for smooth muscle actin and desmin, and negativity for myogenin. | Laparotomic sub-total colpectomy | FU 37 months, no recurrence |
| Akametalu *et al*. [33] 2021 | 31 | Vaginal bleeding at 22 weeks of pregnancy and expulsion of a vaginal mass | n/r | 11 cm | MRI  at 27 weeks of gestation | High-grade sarcoma  Spindle-shaped  cells and bizarre multinucleated giant cells with focal myxomatous  change with mitotic count is greater than 50 per 10 high power field | Positive for CD10, SMA, ER, PR, EMA Positive for CD10, SMA, ER, PR, EMA | Cesarean hysterectomy at 36 weeks of gestation, bilateral salpingectomy and peritoneal biopsies, upper vaginectomy. Adjuvant vaginal brachytherapy | NED 58 months |
| Benti *et al*. 2021 [57] | 47 | Vaginal mass, perineal pain | Lower third of the Posterior  wall. | 6 cm | US | pleomorphic  cells with areas of necrosis and hemorrhage  covering <50% of the tumor.  17 mitotic figures per 10  high power fields (HPFs) | Positive with SMA and Desmin.  The Pancytokeratin and S100 stains were negative | Local excision  Recurrence 4 months: TAH + BSO  Adjuvant pelvic radiotherapy and brachytherapy | NED 36 months |
| Swanson *et al*.[10], 2020  4 (cases) | 60 | n/r | n/r | 8.7–10-UNK-3.3 cm | n/r | Mitotic index:  10, 10, 24, 22  Degree of atypia:  3 moderate-severe,  1 Mild to moderate to focally severe;  All with atypical mitotic figure, with tumor and ischemic necrosis | 2 N/R  1 Desmin, h-Caldesmon and SMA: Diffusely positive; S100 protein and CD34: Negativ  1 desmin and h-Caldesmon: Multifocally positive; Myogenin: Negative | Three patients vaginal removal + adjuvant radiotherapy  One patient vaginal resection and declined further therapy. | 2 patients no recurrence at 4 and 19 months.  One patient no evidence of disease at 2 months after diagnosis.  1 patient had lung metastasis 81 months after initial diagnosis and died at 97 months. |
| Vizza *et al*. [106] 2020 | 58 | Vaginal mass | Anterior wall | 3 cm | MRI+ CT-scan | Spindle-shaped cells with blunt-ended nuclei, dense and richly vascularised stroma, low to moderate mitotic indexes, about 1e4/10 high  power fields (HPF) | Positive for vimentin, smooth muscle actin, caldesmon, desmin; p16 and p53; immunoreactivity for Ki-67 was about 40% | Anterior pelvic exenteration with urostomy | FU 24 months, no recurrence |
| Okunowo *et al*. [107] 2020 | 34 | Vaginal mass and vaginal pain | Lower third of the Right lateral wall | 6 cm | CT-scan | Stage IB  Interlacing  fascicles of pleomorphic spindle shaped cells with marked  nuclear pleomorphism, hyperchromasia, bizarre multinucleated  giant cells with abnormal mitosis >10 mitoses/10 HPF. | Positivity for Ki-67, ASMA, and desmin; negative for S-100 | Local excision + Radio- Chemo therapy  (Four courses of docetaxel and gemcitabine chemotherapy  followed by  radiation) | n/r |
| Golovko *et al*. [48] 2020 | 65 | Vaginal bleeding and progressively enlarging  mass in her Left buttock | Left wall | 9 cm | CT-scan | High grade leiomyosarcoma  spindle-cell nuclei with blunt ends,  coarse nuclear chromatin, and prominent nucleoli | n/r | Complete macroscopical excision, adjuvant chemotherapy  consisting of gemcitabine/docetaxel × 4 cycles | Thyroid metastasis at 5 years  DOP 15 months after thyroidectomy |
| Hagen *et al*. [54] 2019 | 45 | Vaginal discharge, voiding dysfunction. | Posterior wall | 10 cm | MRI, CT-scan | High grade primary vaginal leiomyosarcoma.  Fascicular growth pattern with pushing borders and spindle cells with eosinophilic fibrillary cytoplasm; moderate to severe atypia of nuclei and several areas of  tumor coagulative. Up to 23 mitosis/10 HPF | n/r | 4 cycles of neoadjuvant chemotherapy (gemcitabine and docetaxel)  Robotic-assisted radical hysterectomy with  upper vaginal tumor resection, BSO, Left  pelvic lymph node dissection, and cystoscopy. | Lung metastases 5 months |
| Croce *et al*. [15] 2019 | 50 | n/r | Vaginal mass infiltrated the bladder, rectum and other pelvic tissues | 9 cm | n/r | Stage IIB  Infiltrative pattern of growth with entrapment of adipose tissue around the periphery, low mitotic activity (1 per 10 High Power Fields) and no necrosis or lymphovascular invasion. Prominent lymphocytic infiltrate | S-100 was diffusely positive; CD34, HMB45, Melan A, ER, PR, desmin and Trk were negative. H3K27me3 was totally negative. BCOR was negative and 80% of nuclei were cyclin D1 positive | Total pelvectomy | Tumour recurrence, DOP 34 months |
| Khafagy *et al*. [108] 2017 | 72 | Vaginal and rectal bleeding | Anterior wall, in close proximity to ureter and bladder | 4 cm | MRI, CT-scan | Hypercellular tumor  composed of sheets of spindle cells with marked atypia and >10 mitotic figures per10 high power fields | Positive for SMMS-1, caldesmon, estrogen receptor (ER) and progesterone receptor (PR); negative for  desmin, c-Kit and HMB45. | Placement of bilateral ureteral stents and transvaginal resection of the mass.  Letrazolo | NED 6 months |
| Bassa *et al*. [59] 2015 | 31 | Vaginal mass growing in pregnancy | Right Posterior of the lower  third of vagina | 5 cm | CT-scan, chest X-ray,  ultrasound of the liver | Poorly-differentiated  leiomyosarcoma of the vagina.  spindle-shaped cells with fusiform, hyperchromatic, and pleomorphic nuclei with frequent abnormal mitoses (greater than ten  per ten high-power fields) | n/r | Local excision.  Vincristine, adriamycin,  and cyclophosphamide which was followed by gemcitabine and  cisplatinum and radiotherapy | Metastases and DOP 11 months |
| Wang *et al*. [47] 2015 | 52 | Abdominal pain | Left, upper one-third of vagina | 4 cm | n/r | Stage I high-grade leiomyosarcoma | n/r | Local excision | DOP 20 months |
|  | 44 | Vaginal mass | Right, median part of vagina | 5 cm | n/r | Stage II low-grade leiomyosarcoma | n/r | Local wide excision  Adjuvant chemotherapy 6 cycles (cyclophosphamide, epirubicin, cisplatin) | n/r |
|  | 60 | Vaginal bleeding, abdominal pain | Right, lower one-third of vagina | 6 cm | n/r | Stage IVB high-grade leiomyosarcoma | n/r | Chemotherapy 6 cycles (cyclophosphamide, epirubicin, cisplatin) | DOP 11 months |
|  | 52 | Vaginal bleeding | Left, lower one-third of vagina | 5 cm | n/r | Stage I low-grade leiomyosarcoma | n/r | Local excision  Chemotherapy3 cycles (cyclophosphamide, epirubicin, cisplatin)  Pelvic external radiotherapy | NED 81 months |
|  | 39 | Vaginal mass, vaginal discharge | Left, median and lower part of vagina | 6 cm | n/r | Stage IVA undifferentiated sarcoma | n/r | Chemotherapy7 cycles (ifosfamide, epirubicin, cisplatin)  Pelvic external radiotherapy + brachytherapy | DOP 20 months |
|  | 17 | Vaginal mass | Right, lower one-third of vagina | 1 cm | n/r | Stage I low-grade adenosarcoma | n/r | Local excision  Chemotherapy 3 clycles (paclitaxel, cisplatin) | NED 53 months |
|  | 40 | Vaginal mass, vaginal discharge | Left part of vagina | 5 cm | n/r | Stage IVA low-grade endometrial stromal sarcoma | n/r | Pelvic external radiotherapy | DOP 12 months |
|  | 32 | Vaginal mass | Right, lower one-third of vagina | 1.5 cm | n/r | Stage I low-grade endometrial stromal sarcoma | n/r | Local wide excision + TAH + BSO | NED 21 months |
| Keller *et al*. [55] 2015 | 70 | Vaginal mass, vaginal discharge and  perineal discomfort | Posterior lower one-third of vagina | 3 cm | US, MRI, CT-scan | Smooth muscle neoplasm with increased mitotic activity and  moderate to severe cytologic atypia; increased mitotic  activity (focally up to 8 per ten high power fields) with focal  coagulative necrosis | Positive for vimentin, desmin, and SMA,  negative for S100, Melan-A, myogenin, and cytokeratin  AE1/3. An immunohistochemical stain for Ki-67 was positive  and suggested an increased proliferative index (10–15%). | Local excision  Neoadjuvant Chemotherapy with gemcitabine/docetaxel, followed by robotic-assisted  hysterectomy, BSO, cystoscopy,  and resection of residual vaginal tumour.  After adjuvant radiotherapy | NED 18 months |
| Xu *et al*. [49] 2015 | 69 | Mass in Left buttock | Left wall | 11 cm | CT-scan | High grade leiomyosarcoma with pleomorphic  areas.  Spindle-shaped nuclei with blunt ends, coarse nuclear chromatin, and  prominent nucleoli. Mitoses were easy to see (>5 per  10 high power fields) | n/r | Local excision  Adjuvant chemotherapy | NED 12 months |
| Khosla *et al*. [58] 2014 | 39 | Dyspareunia, vaginal discomfort and difficulty of micturition | Right lateral wall | 4 cm | MRI | Stage I, high grade | n/r | Local excision  Recurrence 11 months and TAH + BSO + partial vaginectomy  Adjuvant chemotherapy + pelvic radiotherapy | FU 29 months, no recurrence |
| Barnabas *et al.* [109] 2014 | 49 | Vaginal mass and pain | Left wall | 2 masses 14 × 12 × 1 cm and 12 × 8 × 2 cm | US, physical examination | Few mitotic figures,  2–4 per 10 high power fields, were observed. Areas of high-grade  anaplasia or foci of necrosis were not seen. The MIB1-labeling index was about 20% in cellular areas.  Grade 2/3  spindle cell sarcoma with smooth muscle differentiation.  Microarray: amplification of 8q including MYC gene | Positive for smooth muscle markers (SMA,  HHF35);  negative for desmin, S-100, cytokeratin (keratin super), and CD34.  Focal CD10-positive.  Strong positive for MYC in 70–80% of tumor nuclei | Vaginal approach | n/r |
| Tsai *et al*. [50] 2013 | 45 | Dyspnea and vaginal bleeding | Posterior wall | 8 cm | US, CT-scan, MRI | Smooth muscle tumour having epithelioid morphology and frequently forming cords and strands reminiscent of a sex cord tumour. Tumour necrosis was present with the mitotic count 6/10 high-power fields | Positive to desmin (Fig. 1c), myosin, oestrogen receptor, progesterone receptor, EMA (focal) and CD10 (focal); negative to skeletal muscle actin, CD117 and alpha-inhibin. | Vaginal removal and TAH + BSO;  Adjuvant chemotherapy | FU 8 months, no recurrence |
| Gong *et al*. [56] 2012 | 42 | Vaginal bleeding | lower third of the Left vaginal wall. Lung Metastasis | 3 cm. | CT-scan | Vaginal leiomyosarcoma containing interlacing fascicles of spindle cells, many with markedly pleomorphic nuclei | desmin, smooth muscle antibody, and estrogen and progesterone receptors. Ki-67 was positive in 30% of the neoplastic cells. | neoadiuvant chemotherapy;  extensive excision of the vulva and lower half of the vagina, vulvovagino plasty, and inguinal and pelvic lymphadenectomy;  postoperative chemotherapy | n/r |
| Church *et al*. [34] 2010 | 25 | Vaginal discharge, back pain and a mass protruding in the vagina at 22 week of gestation | n/r | 15 cm | MRI after delivery | High-grade vaginal wall leiomyosarcoma | n/r | TAH + BSO | FU 15 months, no recurrence |
| Yang *et al*. [110] 2009 | 43 | Vaginal discharge and vaginal mass | Anterior wall | 3 cm | MRI | Leiomyosarcoma with hemorrhagic necrosis and interlacing bundles of spindle- shaped cells with more than 50 mitosis per 10 high-power fields | n/r | local excision; hysterectomy and resection of the vagina | n/r |
| Suh *et al*. [111] 2008 | 66 | Vaginal spotting | Posterior wall | 6.5 cm | MRI | leiomyosarcoma with spindle shaped cells, with degeneration and necrosis. Dysplasia and frequent cell division (8.85/10 HPF). | n/r | Tumor enucleation | FU 5 years, no recurrence |
| Umeadi *et al*. [51] 2008 | 46 | No symptoms | Right upper one-third of vagina | 5 cm | CT-scan; MRI | highly mitotic leiomyo- sarcoma | n/r | Local excision; widening of the margins of resection;  Adjuvant therapy | n/r |
| Zakashansky *et al*. [52] 2007 | 67 | Vaginal spotting, pain and pruritis | lower Left lateral wall | 2 cm | CT-Scan, PET, cystoscopy, sigmoidoscopy | high-grade leiomyosarcoma, with 10 mitoses per high-powered field, with evidence of necrosis and severe cytologic atypia. | n/r | partial radical vaginectomy with unilateral superficial groin dissection  adjuvant chemotherapy  5 cycles of doxorubicin hydrochloride (Adriamycin, 40 mg/m2) every 3 weeks. | FU 25 months, no recurrence |
| Byrd *et al*. [112] 2007 | 56 | vaginal discomfort, frequency of micturition | Anterior aspect of the upper vagina | 4 cm | MRI | Lipoleiomyosarcoma, stage II | n/r | Anterior pelvic clearance, partial vaginectomy and urinary diversion | FU 12 months, no recurrence |
| Amara *et al*. [16] 2007 | 43 | n/r | Posterior wall | 7 cm. | n/r | Stage II, grade High | n/r | Vaginal Hysterectomy followed by postoperative radiotherapy. | FU 40 months, no recurrence |
| Ahram *et al*. [60] 2006 | 42 | vaginal discomfort, dyspareunia and a palpable vaginal lump | Left lateral wall | 8 cm | n/r | poorly differentiated leiomyosarcoma | n/r | Local excision, exploratory laparotomy and cytology of peritoneal washings and multiple biopsies. Post-operative radiotherapy | Metastases 5 weeks, DOP 2 months |
| Behzatoglu *et al*. [17] 2003 | 21 | n/r | n/r | n/r | n/r | Stage I, grade low | n/r | Excision (pregnant) | n/r |
| Benchakroun *et al*. [23] 2002 | 32 | Vaginal mass | Posterior wall | n/r | n/r | Stage I, grade low | n/r | Excision, radiation | NED 50 months |
|  | 42 | bleeding | Posterior wall | n/r | n/r | Stage I, grade high | n/r | Excision, adjuvant chemotherapy | Metastases 6 months, DOP 31 months |
| Ciaravino *et al*. [13] 2000 | 36 | n/r | Posterior wall | n/r | n/r | Stage III, grade n/r | n/r | Excision, radiation | NED 84 months |
|  | 40 | n/r | Anterior wall | n/r | n/r | Stage II, grade n/r | n/r | radiation | n/r |
|  | 86 | n/r | n/r | n/r | n/r | n/r | n/r | None | n/r |
|  | 48 | n/r | n/r | n/r | n/r | n/r | n/r | Radiation | Recurrence 1 month,  DOP 7 months |
|  | 50 | n/r | Posterior wall | n/r | n/r | Stage I, grade n/r | n/r | Excision, radiation | Recurrence 48 months,  outcome NR |
|  | 70 | n/r | Posterior wall | n/r | n/r | n/r | n/r | None | DOP 1 month |
|  | n/r | n/r | Posterior wall | n/r | n/r | n/r | n/r | Radiation | No recurrence after 12 months |
|  | 39 | n/r | n/r | n/r | n/r | Stage II, grade n/r | n/r | Vaginectomy | Metastases 16 months,  DOP 21 months |
|  | 43 | n/r | n/r | n/r | n/r | Stage I, grade n/r | n/r | Excision | NED 96 months |
|  | 49 | n/r | n/r | n/r | n/r | Stage I, grade n/r | n/r | Excision | NED 6 months |
|  | 41 | n/r | n/r | n/r | n/r | Stage II, grade n/r | n/r | Vaginectomy | NED 5 months |
|  | 49 | n/r | Lateral wall | n/r | n/r | Stage I, grade low | n/r | Excision, radiation | NED 17 months |
|  | 46 | n/r | Lateral wall | n/r | n/r | Stage I, grade moderate | n/r | Excision, chemotherapy,  Radiation | NED 12 months |
|  | 37 | n/r | Lateral wall | n/r | n/r | n/r | n/r | Excision | Recurrence 76 months, DOP 101 months |
|  | 32 | n/r | n/r | n/r | n/r | Stage I, grade n/r | n/r | Excision, radiation | NED 48 months |
|  | 38 | n/r | Lateral wall | n/r | n/r | Stage I, grade n/r | n/r | Vaginectomy | NED 180 months |
|  | 38 | n/r | Lateral wall | n/r | n/r | Stage I, grade moderate | n/r | Excision | Recurrence 4 months,  DOP 12 months |
| Horn *et al*. [24] 1998 | 56 | Vaginal mass | Posterior wall | n/r | n/r | n/r | n/r | Radiation,  vaginectomy, chemotherapy | NED 180 months |
| Hachi *et al*. [18] 1997 | 50 | Bleeding | Posterior wall | n/r | n/r | Low grade, Stage I | n/r | Posterior exenteration | NED 20 months |
| Isurugi *et al*. [25] 1996 | 52 | n/r | n/r | n/r | n/r | Moderate, Stage I | n/r | Excision, | n/r |
| Buanga *et al*. [19] 1995 | 51 | n/r | n/r | n/r | n/r | n/r | n/r | Excision, radiation,  chemotherapy | NED 22 months |
| Ngan *et al*. [26] 1994 | 39 | Vaginal bleeding | Lower Anterior wall | 4 cm. | n/r | Moderate grade, Stage I | n/r | Local excision, radiotherapy | Recurrence at 5 months |
|  | 51 | Post-menopausal bleeding | Upper Posterior wall | 16 cm. | n/r | Moderate grade, stage II | n/r | Chemotherapy radical surgery | Recurrence and DOP 84 months |
|  | 69 | Vaginal mass | Anterior wall | n/r | n/r | Moderate grade, stage II | n/r | Radiotherapy | Recurrence at 21years, DOP 278 months |
|  | 42 | Coital problems | Low Posterior wall | n/r | n/r | Severe grade, stage III | n/r | Radiotherapy | Progressive disease and DOP 9 months |
| VAGINAL STUMP | | | | | | | | | |
| Swanson *et al*. [10] 2020 | 33 | n/r | n/r | n/r | n/r | Spindled; mitotic index 11; NO atypical mitosis figure | Desmin and h-Caldesmon: Diffusely positive; S100 protein: Negative | Vaginal approach | Positive margins;  local recurrence as STUMP in the cervix after 19 months. Negative margin at second removal;  No further follow-up was available. |
| Slatter *et al*. [11] 2015 | 71 | n/r | n/r | n/r | n/r. | Mild Cytological Atypia/Tumor Cell Necrosis. Mitotic  Count : 9/10HPF | ATRX or DAXX  Expression LOSS.  APB Presence present  Aberrant p53 Expression#, p16INK [4] A Overexpression, IDH1 R132H  Expression : neg. | n/r | Margins not reported;  DOP 56 months |
|  | 38 | n/r | n/r | 4.2 cm | n/r. | Mild Cytological Atypia/Tumor Cell Necrosis. Mitotic  Count: 1/10HPF | ATRX or DAXX  Expression LOSS.  APB Presence neg.  Aberrant p53 Expression#, p16INK [4] A Overexpression, IDH1 R132H  Expression: neg. | n/r | Margins not reported.  Recurrences: 1.13 months,  NED 35 months |

Legend: MRI: magnetic resonance; FNB: fine needle biopsy; US: Ultrasound; CT scan: Computed tomography scan; PET: Positron emission tomography; TAH: total abdomen Hysterectomy; BSO: bilateral salpingo ovarectomy; vNOTES: vaginal natural orifice transluminal endoscopy surgery; IHC: Immunohistochemisrty; N/R: not reported; FU: follow-up; NED: No evidence of disease; DOP: Dead of patient; CD: cluster of differentiation; STAT 6: Signal transducer and activator of transcription 6; ER: oestrogens receptor; PR: progestin receptor; ASMA: a-Smooth muscle actin; SMA: Smooth Muscle Actin; HMB45: Human Melanoma body marker 45; ALK: anaplastic lymphoma kinase; DOG1: discovered on gastrointestinal stromal tumors protein 1; HHF35: Muscle Actin Antibody 35; GnRH: Gonadotropin hormone-releasing hormone;  EMA: Epithelial membrane antigen; BCOR: B-cell lymphoma 6 corepressor gene; MIB-1 Mindbomb Homolog-1.

Supplementary Table 2. The methodological quality assessment of case reports and case series in systematic review.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Selection | Ascertainment | | Causality | | | | Reporting | Score\* |
| Leiomyoma | Does the patient(s) represent(s) the whole experience of the investigator (centre) or is the selection method unclear to the extent that other patients with similar presentation may not have been reported? | Was the exposure adequately ascertained? | Was the outcome adequately ascertained? | Were other alternative causes that may explain the observation ruled out? | Was there a challenge/rechallenge phenomenon? | Was there a dose–response effect? | Was follow-up long enough for outcomes to occur? | Is the case(s) described with sufficient details to allow other investigators to replicate the research or to allow practitioners make inferences related to their own practice? |  |
| LEIOMYOMA | | | | | | | | | |
| Chen *et al*. [61] 2023 | \* | \* |  | \* |  |  |  | \* | 4 |
| Tarrab *et al*. [20] 2022 | \* | \* | \* | \* |  |  |  | \* | 5 |
| Shah *et al*. [62] 2022 | \* | \* | \* |  | \* |  |  | \* | 5 |
| Gao *et al*. [63] 2022 | \* | \* | \* |  | \* |  | \* | \* | 6 |
| T Benjelloun *et al.* [64] 2022 | \* | \* |  | \* |  |  |  | \* | 4 |
| Abrar *et al*. [65] 2021 | \* | \* |  | \* | \* | \* | \* | \* | 4 |
| Liu *et al*. [36] 2021 | \* | \* | \* |  | \* |  | \* | \* | 6 |
| Shrestha *et al*. [66] 2021 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Liu *et al*. [67] 2021 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Ho *et al*. [31] 2020 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Egbe *et al*. [68] 2020 | \* | \* | \* |  | \* |  |  | \* | 5 |
| Zhang *et al*. [37] 2020 | \* | \* | \* | \* |  |  |  | \* | 5 |
| Swanson *et al*. [10] 2020 | \* | \* | \* |  | \* |  | \* | \* | 6 |
| Patil *et al*. [69] 2019 | \* | \* | \* |  | \* |  |  | \* | 5 |
| Yordanov *et al*. [70] 2019 | \* | \* |  | \* |  |  |  | \* | 4 |
| Ntavela *et al*. [14] 2019 | \* | \* |  |  | \* |  | \* |  | 4 |
| Dunphy *et al*. [38] 2023 | \* | \* | \* |  | \* | \* | \* | \* | 7 |
| Giovannopoulou *et al*. [71] 2023 | \* |  | \* |  | \* |  |  | \* | 4 |
| Upadhyay *et al*. [72] 2018 | \* | \* | \* |  | \* | \* | \* | \* | 7 |
| Gupta *et al*. [73] 2017 | \* | \* | \* |  | \* | \* | \* | \* | 7 |
| Hsayaoui *et al*. [74] 2017 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Wethmara *et al*. [75] 2017 | \* | \* | \* |  | \* | \* | \* | \* | 7 |
| Costa Ribeiro *et al*. [76] 2017 | \* | \* | \* |  | \* | \* | \* | \* | 7 |
| Tanaka *et al*. [39] 2017 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Agarwal *et al*. [77] 2016 | \* | \* | \* |  | \* |  | \* | \* | 6 |
| Asnani *et al*. [40] 2016 | \* | \* | \* |  | \* | \* | \* | \* | 7 |
| Kaba *et al*. [78] 2016 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Spurthi *et al*. [79] 2016 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Zuber *et al*. [80] 2016 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Bansal *et al*. [81] 2015 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Kant *et al*. [82] 2015 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Koranne *et al*. [83] 2015 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Jahan *et al*. [28] 2021 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Manjula and Jyothi 2015 [84] | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Sanyal *et al*. [85] 2015 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Wu *et al*. [86] 2015 | \* | \* | \* | \* | \* |  | \* | \* | 6 |
| Behura *et al*. [87] 2014 | \* | \* | \* | \* | \* |  | \* | \* | 6 |
| Goyal *et al*. [41] 2014 | \* | \* | \* | \* | \* |  | \* |  | 6 |
| Sim *et al*. [88] 2014 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Yilmaz *et al*. [89] 2014 | \* | \* | \* | \* | \* |  | \* |  | 6 |
| Crowley *et al*. [21] 2013 | \* | \* | \* | \* | \* |  | \* |  | 6 |
| Dane *et al*. [90] 2012 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Chakrabarti *et al*. [91] 2011 | \* | \* | \* | \* | \* | \* | \* |  | 7 |
| Shrivastava *et al*. [92] 2011 | \* | \* | \* | \* | \* |  | \* |  | 6 |
| Hubert *et al*. [29] 2010 | \* | \* | \* | \* | \* |  | \* |  | 6 |
| Malik *et al*. [43] 2010 | \* | \* | \* | \* | \* | \* | \* |  | 7 |
| Nidhanee *et al*. [93] 2009 | \* | \* | \* | \* |  |  | \* | \* | 6 |
| Scialpi *et al*. [94] 2009 | \* | \* | \* | \* | \* | \* | \* |  | 7 |
| Bae *et al*. [95] 2008 | \* | \* | \* |  | \* | \* | \* |  | 6 |
| Theodoridis *et al*. [96] 2008 | \* | \* | \* | \* | \* | \* | \* |  | 7 |
| Vlahos *et al*. [42] 2008 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Agarwal *et al*. [27] 2008 | \* |  | \* |  | \* | \* | \* |  | 5 |
| Jeong Park *et al*. [97] 2007 | \* | \* | \* | \* | \* | \* | \* |  | 7 |
| Sherer *et al*. [98] 2007 | \* | \* | \* | \* | \* | \* | \* |  | 7 |
| Do Amaral CC *et al*. [99] 2023 | \* | \* | \* | \* |  | \* | \* |  | 6 |
| Bapuraj *et al*. [30] 2006 | \* | \* | \* | \* | \* | \* | \* |  | 7 |
| Liu *et al*. [100] 2021 | \* | \* | \* | \* |  | \* | \* |  | 6 |
| Tsobanidou and Dermitzakis 2004 [22] | \* | \* | \* | \* | \* |  | \* |  | 6 |
| Gowri *et al*. [44] 2003 | \* | \* | \* | \* |  | \* | \* |  | 6 |
| Sesti *et al*. [101] 2003 | \* |  | \* | \* | \* | \* | \* |  | 6 |
| Hameed *et al*. [102] 2003 | \* | \* | \* | \* |  | \* | \* |  |  |
| Shimada *et al*. [45] 2002 | \* | \* | \* | \* | \* |  | \* |  | 6 |
| Naidoo 2000 [46] | \* | \* | \* | \* | \* | \* | \* |  | 7 |
| Leron *et al*. [103] 2000 | \* | \* | \* | \* | \* |  | \* | \* | 6 |
| LEIOMYO-SARCOMA |  |  |  |  |  |  |  |  |  |
| Moukhlissi *et al*. [53] 2023 | \* | \* | \* | \* | \* | \* |  | \* | 7 |
| Laforga *et al*. [32] 2023 | \* | \* | \* | \* |  |  | \* | \* | 6 |
| Yuana *et al*. [35] 2022  15 cases | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Vitantri *et al*. [104] 2022 | \* | \* | \* | \* | \* |  |  | \* | 6 |
| Saadi *et al*. [105] 2021 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Akametalu *et al*. [33] 2021 | \* | \* | \* | \* | \* |  | \* | \* | 8 |
| Benti *et al*. [57] 2021 | \* | \* | \* | \* | \* |  | \* | \* | 8 |
| Swanson *et al.* [10] 2020 | \* | \* | \* | \* | \* |  |  | \* | 7 |
| Vizza *et al*. [106] 2020 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Okunowo *et al*. [107] 2020 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Golovko *et al*. [48] 2020 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Hagen *et al*. [54] 2019 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Croce *et al*. [15] 2019 | \* | \* | \* | \* | \* |  | \* | \* | 7 |
| Khafagy *et al*. [108] 2017 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Bassa *et al*. [59] 2015 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Wang *et al*. [47] 2015 | \* |  | \* | \* | \* |  | \* | \* | 6 |
| Keller *et al*. [55] 2015 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Xu *et al*. [49] 2015 | \* |  | \* | \* | \* | \* | \* | \* | 7 |
| Khosla *et al*. [58] 2014 | \* |  | \* | \* | \* | \* | \* | \* | 7 |
| Barnabas *et al*. [109] 2014 | \* |  | \* | \* | \* | \* | \* | \* | 7 |
| Tsai *et al*. [50] 2013 | \* | \* | \* | \* | \* | \* | \* | \* | 8 |
| Gong *et al*. [56] 2012 | \* | \* |  | \* | \* | \* | \* | \* | 7 |
| Church *et al*. [34] 2010 | \* | \* |  | \* | \* | \* | \* | \* | 7 |
| Yang *et al*. [110] 2009 | \* | \* | \* | \* | \* | \* |  |  | 6 |
| Suh *et al*. [111] 2008 | \* | \* |  | \* | \* | \* | \* | \* | 7 |
| Umeadi *et al*. [51] 2008 | \* | \* |  | \* | \* | \* | \* |  | 6 |
| Zakashansky *et al*. [52] 2007 | \* | \* |  | \* | \* | \* | \* | \* | 7 |
| Byrd *et al*. 2007 [112] | \* | \* |  | \* | \* | \* | \* | \* | 7 |
| Amara *et al*. 2007 [16] | \* | \* |  | \* | \* | \* | \* | \* | 7 |
| Ahram *et al*. [60] 2006 | \* | \* |  | \* | \* | \* | \* | \* | 7 |
| Behzatoglu *et al*. [17] 2003 | \* |  |  | \* |  | \* |  |  | 3 |
| Benchakroun *et al*. [23] 2002 | \* | \* |  | \* |  |  |  | \* | 4 |
| Ciaravino *et al*. [13] 2000 | \* | \* |  | \* |  |  |  | \* | 4 |
| Horn *et al*. [24] 1998 | \* | \* |  | \* |  | \* |  |  | 4 |
| Hachi *et al.* [18] 1997 | \* | \* |  | \* |  | \* |  | \* | 5 |
| Isurugi *et al*. [25] 1996 | \* |  |  | \* |  | \* |  |  | 3 |
| Buanga *et al*. [19] 1995 | \* | \* |  |  |  | \* |  |  | 3 |
| Ngan *et al*. [26] 1994 | \* | \* | \* | \* |  | \* | \* | \* | 7 |
| VAGINAL STUMP |  |  |  |  |  |  |  |  |  |
| Swanson *et al*. [10] 2020 | \* | \* |  | \* |  | \* | \* | \* | 6 |
| Slatter *et al*. [11] 2015 | \* | \* |  | \* |  | \* | \* | \* | 6 |

\*Tool for evaluating the methodological quality of case reports and case series.