# **Supplementary Table 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Age (yr)/sex | Symptoms/signs | Size of the tumor (unit) | Congenital or acquired | Treatment | Tumor adhesion | Surgical results | Outcome | Follow-up |
| Moore et al. 19506 | 52/M | Cramping in left great toe, inversion deformity of right leg, left sciatic pain | N/A | N/A | Surgical resection | + | STR | + | N/A |
| Manno et al. 19627 | 46/M | Low back pain, left leg and thigh pain. Paresthesia across left thigh | N/A | Acquired | Bilateral laminectomy of 4th and 5th lumbar vertebra | - | GTR | + | N/A |
| Manno et al. 19627 | 2/M | Draining sinus, right leg weakness, | N/A | Congenital | Excision of dermal sinus, sacrolumbar laminectomy | - | GTR | + | 2 years - improvement in involved muscle |
| Boyd 19658 | 49/F | Left buttock and leg pain, difficulty walking | 1.5 cm | Acquired | L4/L5 laminectomy | + | GTR | + | N/A |
| Pear et al. 19689 | 27/F | Left hip and leg pain | N/A | Acquired | Laminectomy | N/A | N/A | N/A | N/A |
| Pear et al. 19689 | 41/F | Severe right leg pain, slight left lower extremity pain | 2.5 x 1.5 cm | Acquired | L3/L4 laminectomy | - | GTR | + | N/A |
| Batnitzky et al. 197710 | 7/F | Progressive back pain that radiated down both legs | N/A | Acquired | Surgical resection | + | GTR | + | N/A |
| Batnitzky et al. 197710 | 5/M | Left hip and leg pain, decreased sensation over the left lateral calf and diminished reflexes at the left knee and ankle | 2 cm | Acquired | Surgical resection | + | GTR | + | N/A |
| Batnitzky et al. 197710 | 9/M | Pain in left mid-calf region, | N/A | Acquired | Surgical resection | + | GTR | + | N/A |
| Martinez-Lage et al. 198311 | 0/M | Lumbosacral myelomeningocele | 5 x 4 x 3 mm | Congenital | Surgical resection | + | GTR | + | N/A |
| McDonald et al. 198612 | 36/F | Pain in lower back, thighs, and legs. Severe pain in right buttock, posterior thigh, and calf. Mild pain in left buttock and posterior thigh. Depression of right knee and ankle reflexes. Decreased sensation of the L5 and S1 dermatomes | N/A | Acquired | Surgical resection | + | N/A | + | 17 years - patient returned complaining of back pain. Found to have central disk herniation- treated conservatively |
| McDonald et al. 198612 | 43/F | Back and bilateral thigh and leg pain. Numbness and tingling of right great toe. Bowel and bladder dysfunction. Absence of right ankle reflex. Loss of sensation to pinprick around the anus. | 3 cm | Acquired | Bilateral laminectomy from L4 to upper sacrum | - | GTR | + | 7 months - mild aching in back and legs. Regained control of bladder and bowels. Right ankle jerk still absent. No pain on straight leg raising or thigh extension. Good strength in legs and thighs. |
| McDonald et al. 198612 | 43/F | Back pain and left leg and thigh pain. Absent right ankle reflex. Hypoactive left ankle reflex. Patchy loss of sensation to pinprick across right calf. | N/A | Acquired | Bilateral laminectomy from L3 to L5 | - | N/A | + | N/A |
| McDonald et al. 198612 | 9/M | Left buttock and left thigh pain. Lumbar lordosis. Left knee reflex was absent. | N/A | Acquired | Bilateral L2 and L3 laminectomies | + | GTR | + | 5 years - doing well |
| Phillips et al. 198713 | 12/M | Sharp pain in the right calf. Lower back pain with radiation down both legs. | N/A | Acquired | Laminectomy | + | N/A | N/A | N/A |
| Ersbak et al. 198814 | 7/M | Right sided hip pain. Depression of knee reflex | N/A | Acquired | Surgical resection | N/A | N/A | + | N/A |
| Gardner et al. 198915 | 11/M | Back pain radiating to buttocks extending posteriorly to the calves. Bilateral paraspinal muscle spasm. | N/A | Acquired | Surgical resection | N/A | N/A | + | N/A |
| Gardner et al. 198915 | 5/F | Intermittent low back pain. Enuresis. Paraspinal muscle spasm and loss of normal lordosis. Right-sided Babinski reflex | 2 cm | Acquired | Surgical resection | N/A | N/A | - | 3.5 years later the patient was re-admitted and found to have recurrence of the cyst. It was resected but the patient continued to have enuresis. |
| Visciani et al. 16 | 11/M | Persistent pain in the right buttock, mild progressive difficulty in walking, | 3 x 3 x 2 cm | Acquired | Surgical resection | + | GTR | + | 2 months - symptom free but with absent right Achilles tendon reflex |
| Baba et al. 199317 | 36/F | Pain radiating into left leg. Inability to walk | 22 x 16 x 19 mm | N/A | Limited laminectomy | + | GTR | + | 6 years - doing well |
| Scarrow et al. 200118 | 31/F | Progressive left lower extremity numbness and weakness. Lower extremity spasticity. Occasional fecal incontinence. Diminished sensation throughout left leg. Hyperactive deep tendon reflexes in lower extremities. Bilateral Babinski signs. Right knee and ankle clonus. | 2 cm | N/A | T4/T5 osteoplastic laminotomy. | - | GTR | + | 1-month follow-up -improvement in all symptoms except continued gait abnormality due to left lower extremity spasticity |
| Teksam et al. 20014 | 7/M | Low back and right leg pain. Unsteady gait and decreased reflexes in the legs. | N/A | Acquired | Surgical resection | N/A | GTR | N/A | N/A |
| Park et al. 20032 | 31/M | Pain radiating to both buttocks and extending posteriorly to the calves. | 2 x 1.5 cm | Acquired | L2 total laminectomy. L1 partial laminectomy | - | GTR | + | 3 months - doing well without any neurologic deficit |
| Ziv et al. 200319 | 6/M | Left hip pain | 1 cm | Acquired | L1-L2 laminectomy | + | GTR | + | 22 months- asymptomatic with normal growth and development |
| Ziv et al. 200319 | 6/F | Non-radiating low back pain in the lumbar region. Nocturnal enuresis. | N/A | Acquired | L3 laminectomy, partial laminectomies at L2 and L4 | N/A | GTR | + | 1 year- normal neurological exam and no further urinary abnormalities |
| Jeong et al. 200620 | 12/M | Back pain that radiated bilaterally into both thighs | N/A | Acquired | L3 – L4 hemi-laminectomy | + | GTR | + | 1 year- asymptomatic |
| Uygur et al. 200621 | 11/M | Left lower extremity pain, left foot weakness, pain originated on left buttock and radiated down to his left calf | 1.5 x 1.0 cm | N/A | L5 laminoplasty | + | GTR | + | N/A |
| Per et al. 20071 | 8/M | Back and hip pain that radiated to both thighs posteriorly | N/A | Acquired | L1-L3 hemi-laminectomy | - | GTR | N/A | N/A |
| Refai et al. 200722 | 7/M | Back pain with radiation into lower extremities | N/A | Acquired | Laminectomy and lesion resection | N/A | N/A | N/A | N/A |
| Yen et al. 200823 | 16/F | Upper back pain, incontinence, progressive lower limb weakness. Paraparesis and paresthesia below the nipples. Decreased anal tone and deep tendon reflexes of the lower limbs | N/A | Congenital | Midline myelotomy | N/A | GTR | + | 4 years - no evidence of recurrent tumor |
| Liu et al. 201224 | 23/M | N/A | N/A | N/A | Surgical resection | N/A | STR | + | 107 months |
| Liu et al. 201224 | 15/F | N/A | N/A | N/A | Surgical resection | N/A | GTR | + | 108 months |
| Liu et al. 201224 | 19/M | N/A | N/A | N/A | Surgical resection | N/A | STR | + | 54 months |
| Liu et al. 201224 | 5/F | N/A | N/A | N/A | Surgical resection | N/A | STR | - | 91 months - Patient required surgery again for recurrence 7 years after initial surgery |
| Liu et al. 201224 | 40/M | N/A | N/A | N/A | Surgical resection | N/A | GTR | - | 84 months - patient suffered from straightening deformity |
| Liu et al. 201224 | 15/M | N/A | N/A | Congenital | Surgical resection | N/A | STR | + | 79 months |
| Liu et al. 201224 | 14/M | N/A | N/A | N/A | Surgical resection | N/A | STR | + | 71 months |
| Liu et al. 201224 | 32/F | N/A | N/A | Congenital | Surgical resection | N/A | STR | + | 62 months |
| Liu et al. 201224 | 35/M | N/A | N/A | Congenital | Surgical resection | N/A | STR | + | 59 months |
| Liu et al. 201224 | 31/F | N/A | N/A | N/A | Surgical resection | N/A | STR | + | 56 months |
| Liu et al. 201224 | 52/F | N/A | N/A | N/A | Surgical resection | N/A | STR | + | 47 months |
| Liu et al. 201224 | 20/M | N/A | N/A | Congenital | Surgical resection | N/A | GTR | + | 28 months |
| Liu et al. 201224 | 64/F | N/A | N/A | N/A | Surgical resection | N/A | GTR | + | 20 months |
| Liu et al. 201224 | 39/F | N/A | N/A | Congenital | Surgical resection | N/A | STR | + | 12 months |
| Liu et al. 201224 | 42/F | N/A | N/A | N/A | Surgical resection | N/A | GTR | + | 6 months |
| Morita et al. 20123 | 4/F | Leg pain | N/A | N/A | Either hemi or total laminectomy | + | GTR | + | 200 months - no recurrence |
| Morita et al. 20123 | 23/F | Low back pain, leg pain, bowel and bladder dysfunction | N/A | N/A | Either hemi or total laminectomy | + | GTR | + | 63 months - no recurrence |
| Morita et al. 20123 | 32/F | Lower back pain, leg pain, sensory disturbance | N/A | Acquired | Either hemi or total laminectomy | 1st: + 2nd: + | 1st: GTR 2nd: STR | 1st: -2nd: - | 1st: 209 months2nd: 43 months |
| Morita et al. 20123 | 34/M | Lower back pain,leg pain | N/A | Acquired | Either hemi or total laminectomy | + | GTR | + | 156 months . Sensory disturbance around perineal region after surgery. Retrograde ejaculation-resolved after 1 year. No recurrence |
| Morita et al. 20123 | 45/F | Leg pain and sensory disturbance | N/A | Acquired | Either hemi or total laminectomy | + | GTR | + | 95 months - no recurrence |
| Morita et al. 20123 | 64/F | Leg pain and motor disturbance | N/A | N/A | Either hemi or total laminectomy | + | GTR | + | 52 months - no recurrence |
| Morita et al. 20123 | 66/M | Lower back pain and leg pain | N/A | N/A | Either hemi or total laminectomy | 1st: +2nd: + | 1st: STR2nd: STR | - | 1st: 110 months - motor weakness of hemilateral lower extremities2nd: 91 months - motor weakness in hemilateral foot deteriorated to severe paresis but hemilateral leg pain was resolved. |
| Manzo et al. 201325 | 36/F | Low back pain radiating to both buttocks | 1.5 x 1 cm | Acquired | L1 total laminectomy. D12 and L2 partial laminectomy | N/A | GTR | + | 4 months - no residual or recurrent tumor |
| Gotecha et al. 201426 | 23/F | Bilateral lower extremity numbness and weakness, spasticity, and fecal incontinence. Diminished light touch and pinprick noted on both lower extremities. Hyperactive deep tendon reflexes in lower limbs. Babinski sign bilaterally. Absent perianal sensation | N/A | N/A | T10- S1 laminectomy | + | GTR | + | 3 months - improvement in weakness and fecal incontinence |
| Gotecha et al. 201426 | 35/M | Urinary incontinence | N/A | N/A | L2-S2 laminectomies | + | GTR | - | N/A - no improvement in urinary incontinence |
| Park et al. 201427 | 21/F | Low back pain radiating to right lower extremity. Sensory loss and motor disturbance in right lower extremity. Bowel and bladder dysfunction | 1.8 x 1.6 x 4 cm | Acquired | Total L5 laminectomy. Partial L4 laminectomy | + | GTR | + | N/A |
| Yin et al. 20145 | 55/F | Pain and neurologic deficit | N/A | N/A | Surgical resection | N/A | GTR | + | 106 months |
| Yin et al. 20145 | 16/F | Pain and neurologic deficit | N/A | N/A | Surgical resection | N/A | GTR | + | 47 months |
| Yin et al. 20145 | 41/M | Pain and neurologic deficit. Difficulty with defecation | N/A | N/A | Surgical resection | N/A | GTR | + | 32 months |
| Yin et al. 20145 | 43/F | Pain and neurologic deficit. Bowel and bladder dysfunction | N/A | N/A | Surgical resection | N/A | GTR | + | 18 months |
| Yin et al. 20145 | 15/F | Pain and neurologic deficit | N/A | N/A | Surgical resection | N/A | GTR | + | 80 months |
| Yin et al. 20145 | 56/F | Pain and difficulty with defecation | N/A | N/A | Surgical resection | N/A | GTR | + | 65 months |
| Grobelny et al. 201528 | 4/F | Gait deterioration and urinary urgency | N/A | Congenital | T7-T10 laminectomy | - | GTR | + | 6 months - complete resolution of symptoms |
| Singh et al. 201529 | 20/F | Progressive thoracic myelopathy. Loss of motor function and numbness in both legs. | 3 x 1.7 x 1.5 cm | Acquired | Surgical excision | N/A | GTR | + | 6 months |
| Present case | 71/F | Lower back and hip pain. Loss of motor function in left leg. Numbness in both legs | 1.4 x 1 x 0.3 cm and 2.5 x 2.5 x 1.5 cm | Acquired | L4 partial laminectomy | - | STR | + | 3 months |

GTR, gross total resection; STR, subtotal resection; N/A, not available; +, positive outcome; -, negative outcome.