| Author Year Country Research Design Score Total Sample Size | Methods | Outcome |
|---|---|---|
| Hollenberg & Mesfin, 2020 USA Case Control N=28 | **Population**: *SCI with OPLL Group (n=12)*: Mean age: 59.7 yr; Gender: males=6, females=6; Level of injury: cervical=12; *CM with OPLL Group (n=16)*: Mean age; 55.4 yr; Gender: males=7, females=9; Level of injury: NA. **Intervention:** A retrospective chart review was performed for all patients who underwent surgical management for Ossification of the Posterior Longitudinal Ligament (OPLL) OPLL in an academic medical center between November 2006 and July 2019. Patients were categorized into 1 of 2 groups and compared on the basis of their initial presentation: 1) SCI with OPLL or 2) cervical myelopathy (CM) with OPLL. **Outcome Measures**: Surgical approach, levels fused/decompressed, estimated blood loss (EBL), postoperative hospital length of stay, surgical complications, American Spinal Injury Association (ASIA) motor score (0-100) and impairment scale. | 1. The most common type of OPLL in both groups was segmental (21, 75%).<br>2. The average levels fused/decompressed (p=0.0176), estimated blood loss (p=0.0204), and postoperative length of stay (p=0.0003) were all significantly higher in the SCI with OPLL group.<br>3. There were significantly more anterior-only surgical approaches performed in the CM with OPLL group (p=0.0159).<br>4. The motor score at admission (P=0.0005) and at latest follow-up (p=0.0003) for the SCI with OPLL group was significantly lower than the CM with OPLL group. |
| Yang et al., 2017 United States Case Series N=8 | **Population:** Mean age: 58.25 yr; Gender: males=8; Severity of injury: AIS: A=4, B=3, D=1. **Intervention:** Surgical resection, two patients had additional prophylactic radiation, and one had pharmacological prophylaxis. **Outcome Measures:** Mortality, healed surgical site. | 1. One of the eight patients died at 9mo post-op.<br>2. Six of the eight patients treated for HO healed well, while one had ongoing healing at 6 mo post-op. |
| Genet et al. 2011 France Case Series N=86 | **Population:** Mean age: 27.1yr; Gender: males=70, females=16; Mean time since injry: 13.1 mo. **Intervention:** Charts of patients who underwent surgical resection for HO were examined. **Outcome Measures:** Recurrence of HO. | 1. Most common site of HO was hips (74.4%).<br>2. HO recurrence was seen in 5.8% of patients.<br>3. Sepsis was a common side effect post-surgery.<br>4. Recurrence was not associated with etiology of injury (p=0.46) or sex (p=1.00).<br>5. A significant association was found between recurrence and delay until first surgery for SCI (p<0.01). |
| Schuetz et al. 2005 Switzerland Case Series N=7 | **Population:** Age range: 47-68 yr; Gender: males=7; Injury etiology: SCI=7; Level of injury: thoracic=1, tetraplegia=2. **Intervention:** All patients underwent excision-surgery for removal of HO. Pamidronate was administered IV peri- | 1. No statistical results were reported.<br>2. None of the patients treated with pamidronate showed clinical, x-ray or lab signs of HO recurrence or |

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| | and post-op, starting at a dose level of 120 mg for 1st 12 hr and gradually increasing for a total of 6-14 days. **Outcome Measures:** Prevalence of HO. | new HO at time of F/U (5-54 mo post-op). |
| Meiners et al. 1997 Germany Case Series $N_{Initial}$=31 (43 hips); $N_{Final}$=29 (41 hips) | **Population:** Mean age: 37.87 yr; Gender: males=28, females=1; Level of injury: paraplegia=19, tetraplegia=10; Severity of injury: complete 22, incomplete 7; Time since injury range: 17-298 mo; Hip side: L=16, R=23. **Intervention:** Resection of HO of the hip via ventral approach. Post-operation: wk 1-irradiation of hip with a linear accelerator; Day 15–passive movement exercises implemented. **Outcome Measures:** Range of motion (flexion and extension) pre-, post-, intra-operatively and at follow-up. | 1. Mean range of motion improved from 21.95° pre-operatively to 94.51° intra-operatively, to 82.68° post-operatively (mean=4.2 yr). |
| Garland & Orwin 1989 USA Case Series N=19 | **Population:** Mean age=22.5yr; Level of injury: paraplegia=8, tetraplegia=11; Severity of injury: complete=12, incomplete=7. **Intervention:** Records of those who underwent hip resection for HO between 1970 and 1985 were reviewed. **Outcome Measures:** Range of motion, recurrence rate, and adverse effects. | 1. Of 24 hips operated on, three had similar or less motion when compared with preoperative motion, 15 had 10-39° improvement, and 6 had >40° improvement.<br>2. Total recurrence rate was 92% (22 of 24 hips).<br>3. A high number of complications, infections and blood loss occurred. |
| Subbarao et al. 1987 USA Case Series N=5 | **Population:** Age range: 29-41 yr; Time since injury range: 18-197 mo. **Intervention:** Etidronate given 10 days-2 wk preoperatively, medication withheld for immediate postop period (72 hr) and continued for minimum of 3 mo. All patients underwent wedge resection at hip to permit free movement of hip in flexion. **Outcome Measures:** Function, range of motion. | 1. All patients at last follow-up could function independently in their wheelchairs except one (was able to function independently in a semi-reclining wheelchair).<br>2. Patients had severe restriction of range of motion in involved joints. |