The accessory sacroiliac joint (ASIJ) is a known anatomic variant that has been recognized since the early 1900’s. It is a false joint remote and dorsal to the true synovial portion of the sacroiliac joint (SIJ). The sacral and iliac components are closely approximated with well-defined and corticated joint margins as well as a distinct joint space.

The etiology of the ASIJ remains unclear. It is not certain if the ASIJ is a congenital condition or if it is an acquired joint. Petersen (1905) and Jazuta (1929) found hyaline cartilage and joint capsule in some of their specimens, which suggests the ASIJ can be present at birth. Trotter (1937) found fibrocartilage on the articular surface of most of her cadaveric specimens. She also noted an increased frequency of the ASIJ associated with age and concluded this joint was acquired in most cases. Prassopoulos et al. (1999) found that ASIJs were more common in the obese and in persons more than 60 years of age, suggesting that the joints are acquired through weight-bearing stress.

Ehara et al. (1988) identified the ASIJ in 13% (13 of 100) of pelvic CT scans obtained for reasons unrelated to the skeleton and in 16% (9 of 56) of dried skeletons in their investigation.

Valojerdy and Hogg (1990) studied dried bone specimens and identified the ASIJ in 18% of their 153 specimens.

In a study that examined the type and prevalence of anatomical variants of the SIJ in patients without SIJ disease on CT exam, Prassopoulos et al. (1999) identified an ASIJ in 19.1% of the 534 CT scans studied.

The reports of postarthography computerized tomography (CT) scans as well as the CT scans of 559 chronic pain patients undergoing SIJ injections at a comprehensive Pain Management Facility were reviewed to determine the frequency of the ASIJ, a known SIJ variant. The ASIJ was identified in 20 of 559 (3.6%) post arthography CT scans.

A summary of these 20 patients can be found in Table 1. There are two patients in the study who had an ASIJ on both sides but they were at different levels, one male and one female. These two patients had an ASIJ at the level of S2 on the right and S3 on the left. Figures 1A and 1B demonstrate bilateral ASIJs and a right-sided ASIJ, both located at the S2-3 level.

Post SIJ arthrography/CT of 559 patients revealed an ASIJ frequency of 3.6%. This is a considerably lower rate than previously reported (Ehara et al., 1988; Valojerdy and Hogg 1990; Prassopoulos et al., 1999). The contrasting findings between the current and previous reports may be attributed to a difference in patient population base (because the subjects of our studies were symptomatic patients undergoing interventional procedures aimed at pain alleviation as well as to determine the anatomical integrity of their SIJ and its capsule). Previous authors may have mistaken the joint’s known interdigitating ridges and depressions for accessory joints (Bowen and Cassidy, 1981; Vleeming et al., 1990). It is also possible that focal areas of degenerative ankylosis, a common finding after the age of 30 (Resnick et al., 1975; Vogler et al., 1984), were misinterpreted as a congenital variant. Differences in imaging techniques/protocols may also have contributed to the disparate findings. In contrast to previous studies, our study group was comprised of symptomatic patients: Hence, if the ASIJ was solely an acquired phenomenon, this study most probably would have found a frequency of ASIJs equal to or exceeding previous reports.

Although the ASIJ is not a rare variant, it may not be as common a finding as prior studies suggested. Normal joint architectural and degenerative changes masquerading as accessory joints, the patient population base, and imaging protocols are some variables which may have contributed to the frequency differences between this study and other ASIJ variant investigations.

REFERENCES

*Correspondence to: Joseph D. Fortin, Spine Technology & Rehabilitation, 7230 Engle Rd. Ste. 210, Fort Wayne, Indiana 46804, USA. E-mail: fortin@pol.net
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### TABLE 1. Breakdown of the 20 Patients with ASIJs According to Level of the Joint, and Gender of the Patient

<table>
<thead>
<tr>
<th></th>
<th>S1</th>
<th>S1-S2</th>
<th>S2</th>
<th>S2-3</th>
<th>S3</th>
<th>Unknown</th>
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<td>Males with bilateral ASIJs’</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>1</td>
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<tr>
<td>Females with bilateral ASIJs’</td>
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<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Males with unilateral ASIJs’</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females with bilateral ASIJs’</td>
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<td></td>
<td>5</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 1.**

**A:** A female with bilateral ASIJs at the S2-3 level. Large black arrows are the true synovial joint, small white arrows toward the bottom of the photo are ASIJs.

**B:** A female with a unilateral ASIJ at the S2-3 level. Black arrows on both sides of the scans indicate the true synovial joints and the white arrows point to the ASIJ.