Abstract

Objective: MRI is used in patients with lower extremity venous disease to screen for iliac vein compression. The objective of the study is to determine the incidence of iliac vein compression and associated lower extremity venous symptoms in consecutive patients undergoing MRI of the pelvis.

Methods: A retrospective study of all adult consecutive patients undergoing MRI of the pelvis for various indications between March 2012 and June 2016 was conducted. The electronic medical records (EMRs) were reviewed for patient characteristics and specifically for the presence and laterality of venous symptoms. All MRI images were reviewed and the maximal degree of iliac vein compression was noted. All patients responded to a brief telephone survey inquiring about the presence of venous symptoms. Two thresholds of venous compression ≥ 50% and ≥ 70% were used to correlate with the presence of venous symptoms based on chart review and survey results.

Results: There were 120 patients with mean age 53± 14 years (women = 79%, white = 79%). The incidence of iliac vein compression ≥ 50% was significantly higher on the left compared to the right (34.2% vs 16.7%, P<0.01). The survey demonstrated that 36.7% (44/120) of patients had venous symptoms compared to only 25% (30/120) based on EMR review (P=0.001). There was no difference between patients with positive versus negative survey for venous symptoms and the occurrence of iliac vein compression ≥ 50% on the right (17.2% vs 15.2%, P=0.78) or the left (38% vs 26.8%, P=0.22). There was also no difference when occurrence of iliac vein compression ≥ 70% was used as threshold on the right (2.3% vs 3%, P=0.99) and on the left (10.1% vs 2.4%, P = 0.16). Analysis using venous symptoms based on EMR yielded similar results. (Table)

Conclusion: Iliac vein compression is more common on the left and is encountered in up to a third of patients undergoing MRI of the pelvis. There was no correlation in our study between iliac vein compression and the occurrence of ipsilateral venous symptoms. Venous symptoms are underreported in medical records. Further studies are necessary to identify predictors of pathological iliac vein compression.

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