Abstract
BACKGROUND: Presence of reflux in saphenofemoral and saphenopopliteal junctions represents important data for indication of varicose vein surgery. Studies demonstrated that in most patients with chronic venous insufficiency junctions are competent and reflux is present in segments in the course of saphenous veins. OBJECTIVES: To identify the probability of different reflux patterns in the saphenous veins of women with various degrees of chronic venous insufficiency and to evaluate whether junction impairment is associated with severity of venous insufficiency. METHODS: A total of 1,184 lower limbs of 672 women were evaluated by color-flow Doppler ultrasonography and classified according to clinical, etiologic, anatomic and pathophysiological classification (CEAP). The extremities were divided according to severity of venous insufficiency into three groups: mild (CEAP C1-C2), moderate (CEAP C3) and severe (CEAP C4-C6). Bayes' theorem was used to evaluate CEAP classification as a predictor of reflux patterns. The association between CEAP clinical classification and reflux patterns with or without saphenofemoral and saphenopopliteal insufficiency was analyzed using chi-square test (p < 0.05). RESULTS: Out of 1,184 lower limbs, 50.2% had varicose veins without edema (CEAP C2). The most common reflux pattern was the segmental in both great (35.14%) and small (8%) saphenous vein, regardless of severity of venous insufficiency. Saphenofemoral and saphenopopliteal junctions were the source of reflux in 12 and 6% of lower limbs, respectively. Considering the association between CEAP clinical class and saphenous vein insufficiency, there was significant difference between presence of reflux in saphenofemoral (p = 0.0009) and saphenopopliteal (p = 0.0006) junctions in advanced disease. CONCLUSIONS: Venous reflux begins mainly in saphenous vein segments. Saphenous vein junctions are not the main sources of reflux in the superficial venous system. Risk of reflux in saphenous vein junctions increases with clinical severity of chronic venous insufficiency.

Keywords
Venous insufficiency, varicose veins, saphenous vein, ultrasonics, Doppler.