Ten-Day Response to CT-Guided Spinal Infiltration Therapy in More Than a Thousand Patients

Kilian Brändle, Martin Stienen, Armin Neff-Schöb, Gerhard Hildebrandt & Holger Joswig

BACKGROUND AND STUDY AIMS
Infiltration therapy (IT) for degenerative spine disease is considered a valuable nonsurgical treatment option in the absence of severe neurologic deficits. The aim of this study was to evaluate the 10-day response to computed tomography (CT)-guided IT and to identify parameters that are positively or negatively associated with short-term outcome.

PATIENTS AND METHODS
We conducted a prospective study on 1327 consecutive patients that received CT-guided IT for various spinal disorders between February 2007 and June 2013. Different steroids (betamethasone, dexamethasone, triamcinolone) with or without bupivacaine were applied using different approaches (direct and indirect for cervical nerve roots; transforaminal and interlaminar as well as combined approaches for lumbar nerve roots; facet joint and sacroiliac joint infiltration). The primary end point was the patients’ response 10 days after IT, which was graded as better, the same, or worse. The chi-square test was used for subgroup comparisons.

RESULTS
A total of 1002 patients provided 10-day follow-up. Clinically meaningful pain relief was achieved in 65 of 107 patients treated for cervical disk herniation (60.8%), 27 of 60 for cervical foraminal stenosis (45%), 295 of 412 for lumbar disk herniation (71.6%), 134 of 199 for lumbar spinal stenosis (LSS) (67.3%), 35 of 61 for cervical facet joint pain (57.4%), 87 of 128 for lumbar facet joint pain (68%), and 25 of 35 for sacroiliac joint syndrome (SIJS) (71.4%). There was no difference with regard to the infiltration technique, types, and doses of steroids administered or the add-on of local anesthetics. An age-dependent difference was shown for elderly patients with LSS and SIJS. Repeated infiltrations were equally effective in alleviating pain compared with the first infiltration.

CONCLUSIONS
CT-guided IT for various spinal disorders has an overall positive response rate of 66.7% after 10 days. Outcome was not unduly influenced by technical
variations in technique, types, and doses of steroids administered and probably relates better to the correct indication than to technical aspects.