There are no uniformly accepted radiological guidelines or recommendations regarding detection and treatment of extravasation events and immanent complications in a timely manner” Mandlik et al (2018).

Abstract:

BACKGROUND: Contrast extravasation events in daily radiological routine may lead to serious complications, especially during CT examinations. The resulting symptoms may vary from local pain up to skin ulcers, necrosis or even acute compartment syndrome. There are no uniformly accepted radiological guidelines or recommendations regarding detection and treatment of extravasation events and immanent complications in a timely manner.

METHOD: Systematic literature research considering the last 35 years via PubMed using search terms “contrast medium extravasation/paravasation”.

RESULTS: In the literature, there are conservative management approaches of contrast media extravasation without major evidence base, such as unguent dressings, cooling or splinting. This therapy is mostly symptomatic. Additionally, various invasive techniques are described. We discuss these techniques in the context of contemporary literature, such as the hyaluronidase Injection into the site of extravasation, suction/aspiration technique including flushing of the affected tissue areas and the squeezing technique. However, most citations lack scientific evidence: many articles include anecdotal enumerations, case studies
or cite publications from the era, when ionic high osmolar contrast media was state-of-the-art. Besides, many authors derive their extravasation management from studies, where agents other than contrast media were investigated.

CONCLUSION: After detailed literature review, we suggest early (plastic) surgical consultation when non-ionic, low-osmolar contrast medium extravasation is about 150 cc or more. In case of extravasation less than 150 cc but in presence of additional symptoms such as impaired perfusion or altered sensibility, the (plastic) surgeon should also be consulted instantly. We do not recommend any invasive first line therapy when contrast media extravasation is less than 150 cc and the patient presents no additional symptoms, besides swelling and local pain. Nevertheless continuous monitoring and accurate conservative management such as active cooling and elevation, splinting of the affected extremity are mandatory as early detection of critical symptoms helps to initiate prompt surgical intervention and avoid sequelae.

KEY POINTS: Morbidity after contrast media extravasation is extremely rare. Predicting sequelae after contrast extravasation is difficult at first sight. Treatments such as hyaluronidase injection, suction/aspiration, squeeze technique have been described. Surgical consultation is recommended for extravasation > 150 cc or when additional symptoms occur.

Reference: