

EV0704. Tolerance of ceftriaxone administrated subcutaneously. A French prospective multicentre observational study

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INTRODUCTION

Intravenous injection of antibiotics may be difficult in some patient subsettings (poor venous access, behavioural disturbance, swallowing trouble). Subcutaneous (SC) route offers several advantages over other parenteral ways of injection. It is painless and less associated with infectious and thrombotic complications. This route of administration is easy to perform at home or in institution and may avoid hospitalization in frail patients.

Antibiotic administration through SC injection is common practice in France, especially with ceftriaxone (CRO).

- Aims of the study were:**
- 1- To document AE caused by CRO SC administration
 - 2- To detail the procedures of CRO SC administration



METHODS

Ancillary study focusing on CRO use from a large prospective non-interventional multicentre study (Forestier E, et al. *Clin Microbiol Infect* 2015; 21:370.e1-3.)

Inclusion criteria

- Patient (>18 yo) treated at least one day with SC CRO
- From May to September 2014
- Followed up until the end of the antibiotic treatment

Tolerance

Occurrence of systemic and local AE (edema, pain, erythema, hematoma)

Details of administration (diluent, infusion duration, lidocaine use, needle type)

Efficacy

Infection cured at the end of the SC CRO course

RESULTS

50 centres (66 investigators)



163 patients

- Mean age 83 (19-104)
- Females 59%

Source of infection

- Urinary (47.8%)
- Respiratory (35.8%)

Grounds of SC route

- Poor venous access (39%)
- Palliative care (35%)
- No oral route (25%)
- Agitation (22%)
- To facilitate hospital discharge (15%)
- No active oral antibiotic drug (12%)
- To avoid hospitalization (6%)

Details of administration

Duration of infusion	
<5 mn	42%
5-30 mn	58%
Diluent	
NaCl 0.9%	67.6%
Glucose 5%	18.7%
Water	13.7%
Type of needle	
Non-rigid catheter	63.6%
Butterfly needle	18.5%
Subcutaneous needle	17.9%
Site of infusion	
Thigh	52.8%
Side	29.6%
Other	17.6%

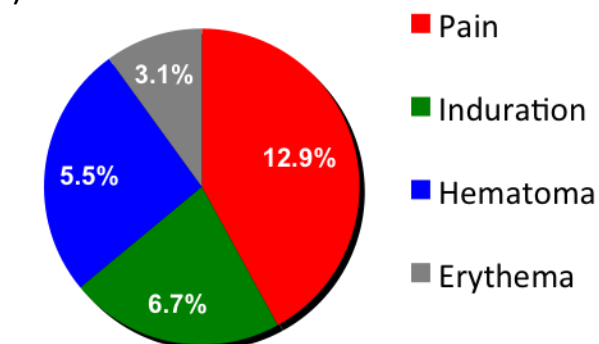
Tolerance

- 31 (21.5%) patients experienced at least 1 AE, only 1 systemic AE (cholestasis)
- No cutaneous necrosis
- Local AE: reversible, except for 1 patient (persistent pain)
- AE led to discontinuation of the SC infusion in 4 patients (2%).

Efficacy

Success	137 (84%)
CRO withdrawn (AE, more convenient antibiotic)	17 (10.4%)
Clinical or bacteriological failure	8 (5%)
Death	1 (0.6%)

Adverse effects



DISCUSSION

In a recent report, the European Medicines Agency remarked that data were lacking to recommend a subcutaneous administration of CRO. This study supports the hypothesis that SC CRO administration may represent a safe alternative to IV route, especially in some peculiar patient settings, such as elders. However, clinical efficacy and PK/PD data of this route need to be further assessed.