Gluteal intramuscular injections: Techniques associated with successful octreotide LAR injection

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Abstract

Background
Gluteal intramuscular injection remains an important method for delivery of a variety of medications including octreotide LAR. In one study, only 52% of gluteal injections were delivered into the intramuscular space (Chan et al, Eur J Radiol. 2006). We examined nursing factors that are associated with successful gluteal intramuscular injections.

Methods
Patients receiving intramuscular injection of octreotide LAR at the Gastrointestinal Center, University of Texas M. D. Anderson Cancer center were identified. Nursing interviews were conducted to identify injection technique. Pelvic CTs were reviewed for evaluation of injection success.

Results
22 Nurses were interviewed. 251 intended intramuscular injections between 12/21/2005 and 6/25/2008 were evaluable by CT. ... successful intramuscular injection. Factors associated with successful intramuscular injection included self-reported indicators of experience, landmark based localization of injection site, depth of needle insertion, and use of non-syringe hand.

Conclusion
A significant number of octreotide LAR injections are not successfully delivered into the intramuscular space. Nursing awareness led to improvements in intramuscular injection success rate (52% vs 67%; P = 0.02).

Methods

- Literature review to determine current best practice recommendations and available information.
- Determine potential factors affecting IM injection success using Ishikawa (fishbone) diagram
- Nursing interviews to determine injection technique.
- Pelvic CTs were reviewed for evaluation of injection success.
- Radio opaque markers were used in conjunction with selected CTs to evaluate injection site selection.

Results

- 22 Nurse interviews demonstrated a variety of injection techniques and comfort levels associated with the gluteal injections of octreotide LAR.
- CT review revealed that out of 251 intended intramuscular injections between 12/21/2005 and 6/25/2008, 105 (42%) were associated with subcutaneous nodules indicating subcutaneous placement; 146 (58%) were deemed successful intramuscular injections.
- Male patients had fewer subcutaneous injection nodules overall than female patients, regardless of nursing injection factors.

Objective

- Evaluate gluteal IM injection success rate among patients receiving octreotide LAR
- Evaluate nursing related factors associated with successful gluteal IM injection
- Develop guidelines to optimize injection outcome

Self-reported parameter | Group | IM rate | P
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Indicators of experience | Experience with IM injection | Moderate | 44% | 0.008
Very | 63%
Frequency of IM injection | Few per year | 29% | 0.007
Monthly | 63%
Daily/weekly | 60%
Comfort with LAR injection | 1 - 9 | 40% | <0.001
(scale 1 – 10) | 10 | 74%

Use of landmarks for site localization improved intramuscular injection success rate. Landmark however can be affected by body habitus.

References