Carta ao Editor

A second look on intramuscular diazepam for psychiatric emergencies

Uma reavaliação do diazepam intramuscular para emergências psiquiátricas

PEDRO VIEIRA DA SILVA MAGALHÃES

1 M.D., M.Sc., Molecular Psychiatry Laboratory, Hospital de Clínicas de Porto Alegre and Universidade Federal do Rio Grande do Sul (UFRGS).


Even if oral medications are preferred whenever their use is possible, intramuscular application (IM) of psychotropics is frequently needed in psychiatric emergencies. Benzodiazepine use has been recommended in recent guidelines as they have a lower incidence of side-effects, especially extrapyramidal symptoms, when compared with typical antipsychotics1.

Lorazepam has been the preferred benzodiazepine because of its reliable absorption; its parenteral formulation, however, is unavailable in Brazil. This probably explains the addition of promethazine, a sedative antihistamine, to haloperidol in our emergency rooms2. This combination has the virtue of having been tested in several high quality randomized trials, with hundreds of patients exposed3. The haloperidol-promethazine mix, however, has not been tested against the combination of an antipsychotic and benzodiazepine, which is standard practice, at least in countries where parenteral lorazepam is available1.

Intramuscular use of diazepam has been little explored in clinical research; this is probably related to pharmacokinetic difficulties related to its gluteal IM administration. Although the absorption of certain drugs following IM injection can be erratic leading to unpredictable clinical response, muscle is more vascular than subcutaneous tissue, with absorption occurring more rapidly after deltoid administration and more slowly after gluteal injections4. In two trials in which IM use of diazepam was examined, it was as effective as lorazepam for anxiety5 and as sedation before electroconvulsive therapy in chronically psychotic patients6.

A number of studies have demonstrated that deltoid application renders the absorption of diazepam more reliable. In one randomized, cross-over, study, absorption after deltoid injection of diazepam was rapid and complete3. In another experiment on healthy subjects, absorption was more rapid, having a greater clinical effect after shoulder than after thigh administration8.

Having those pharmacokinetic data at hand, a point can be made that deltoid administration of diazepam in addition to haloperidol could be tested in clinical trial against haloperidol and promethazine. Among benzodiazepines available in Brazil, diazepam has clear advantages over midazolam, as it is approximately 15 times cheaper and widely available for the treatment of seizures in emergency services. If deltoid administration of diazepam is demonstrated to be effective in psychiatric emergencies, patients should benefit from having another useful option for the treatment of agitation..

References