HALOPERIDOL AND MIDAZOLAM DON'T WORK, AND NOW WHAT?

F. Godinho¹, S. Escária²
¹Hospital Espírito Santo de Évora, Department of Psychiatry and Mental Health, Évora, Portugal.
¹Hospital Espírito Santo de Évora, Department of Internal Medicine, Évora, Portugal.

Objective:

To describe a case of successful management of refractory agitation with dexmedetomidine in the emergency department.

Background:

- **Agitation in the emergency department is frequent**, and its correct approach is fundamental to identify and treat its etiology.
- Regardless of the cause, **emergency psychiatrist is frequently called**.
- Suggested pharmacological approaches to agitation include **antipsychotics and benzodiazepines**.

Materials and methods:

Case report and brief review of dexmedetomidine.

RESULTS

Clinical case

65 years old female,
Psychiatric history of persistent depressive disorder
No previous medical history. No drugs or alcohol consumption history

Brought to the ER due to vomiting and altered behavior with **severe agitation** and suspected meningitis.

Chlorpromazine IM until 75 mg was administered, with no effect.

Emergency psychiatrist was called ➡ **olanzapine 20 mg and Haloperidol 10 mg IM** was also administered with no effect.

Due to persistent agitation: **midazolam** was started, **until 18mg**, with **respiratory depression** and agitation recurrence when stopped.

The decision of starting **dexmedetomidine perfusion** was then made, with correct management of agitation, and making possible therapeutic procedures.

Dexmedetomidine

Dexmedetomidine is a selective alpha-2 receptor agonist.
Mechanism of action: Stimulation of parasympathetic outflow and inhibition of sympathetic outflow from the locus coeruleus. Higher α2 affinity when compared to clonidine.

Indication (EMA): for sedation of adult patients in Intensive Care Unit and for sedation of non-intubated adult patients prior to and/or during diagnostic or surgical procedures requiring sedation.

Recent clinical studies compare the use of Dexmedetomidine with other classical agents used to treat delirium (p.e. haloperidol) in non-intubated patients with promising results.

Ng KT (2019)	Meta-analysis	
		“In the patients who received dexmedetomidine (eight trials, 1425 patients), delirium was reduced, odds ratio (95%CI) 0.36 (0.26-0.51), p < 0.001” “The use of dexmedetomidine was associated with a reduced incidence of agitation, OR (95%CI) 0.34 (0.20-0.59), p < 0.001”
Carrasco G (2016)	NonRCT vs Haloperidol	“dexmedetomidine shows to be useful as a rescue drug for treating agitation due to delirium in nonintubated patients in whom haloperidol has failed”

Conclusion:

Dexmedetomidine is mainly used in the ICU context, however, because its sedative effects and no significant respiratory depression, there is potential for other uses.
Further studies in non-intubated patients are necessary for the safe and effective use of this drug in the emergency context.

References:

[1]: Ng KT, Shubash CJ, Chong JS. The effect of dexmedetomidine on delirium and agitation in patients in intensive care: systematic review and meta-analysis with trial sequential analysis. Anaesthesia. 2019 Mar;74(3):380-392. doi: 10.1111/anae.14472.
[2]: Carrasco G, Baeza N, Cabré L, Portillo E, Gimeno G, Manzanedo D, Calizaya M. Dexmedetomidine for the Treatment of Hyperactive Delirium Refractory to Haloperidol in Nonintubated ICU Patients: A Nonrandomized Controlled Trial. Crit Care Med. 2016 Jul;44(7):1295-306. doi: 10.1097/CCM.0000000000001622.
[3]: https://www.ema.europa.eu/en/documents/product-information/dexdor-epar-product-information_pt.pdf. August 2019
[4]: Lam RPK, Yip WL, Wan CK, Tsui MSH. Dexmedetomidine use in the ED for control of methamphetamine-induced agitation. Am J Emerg Med. 2017 Apr;35(4):665.e1-665.e4. doi: 10.1016/j.ajem.2016.11.004.