

Evaluation of paliperidone palmitate injection site in an acute behavioral unit

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Background

Paliperidone palmitate is a long-acting injectable antipsychotic indicated for the treatment of schizophrenia and schizoaffective disorders in adults. Once tolerability is established with oral paliperidone, the recommended initiation dose of paliperidone palmitate is 234 mg on day one and 156 mg one week later. The recommended administration location for these two initiation doses are in the deltoid muscle because administration in the deltoid muscle has an average maximum concentration that is 28% higher compared to the gluteal muscle. These two initiation doses aid to reach therapeutic concentrations rapidly. The monthly maintenance doses can be administered either in the gluteal or deltoid location. The variance in the location of administration can result in a lower blood concentration of the drug initially resulting in an increase in patient symptoms.

Objective

The purpose of this study was to evaluate the administration location of paliperidone palmitate initiation doses in an acute behavioral unit at The University of Texas Health North Campus Tyler. The results will be used to improve paliperidone palmitate administration procedures if necessary

Methods

A list of patients who have received paliperidone palmitate at The University of Texas Health North Campus Tyler from January 1, 2018 to June 15, 2020 was gathered from pharmacy records. Study inclusion criteria included all patients over 18 years of age who received paliperidone palmitate on the acute behavioral health unit and received oral paliperidone palmitate during hospitalization prior to the initiation dose of paliperidone palmitate. Patients were excluded if they were less than 18 years of age, were hospitalized on another unit of the hospital, or did not receive oral paliperidone prior to the paliperidone palmitate injection.

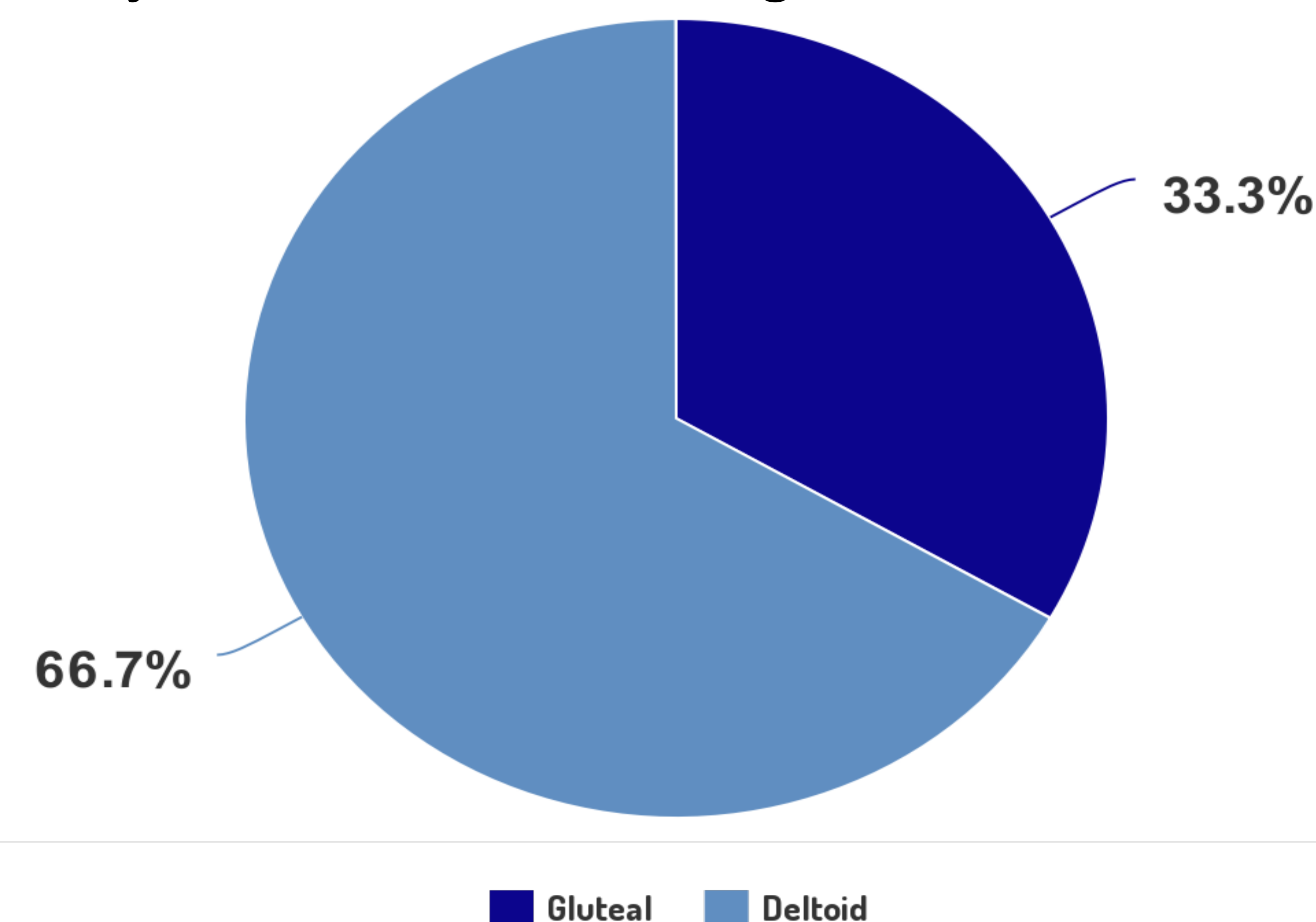
Methods (Continued)

Using the visit number, researchers accessed the patients' electronic medical record. Name and date of birth were used to confirm the correct chart was accessed. For all included patients, the location of injection for each paliperidone dose was collected and recorded as either gluteal or deltoid and either left or right side. The location of the doses (side and muscle) was then put into a deidentified Excel document. Once the data was collected, descriptive statistics were used to describe the results. This study was approved by the IRB at the University of Texas Health Science Center at Tyler.

Results

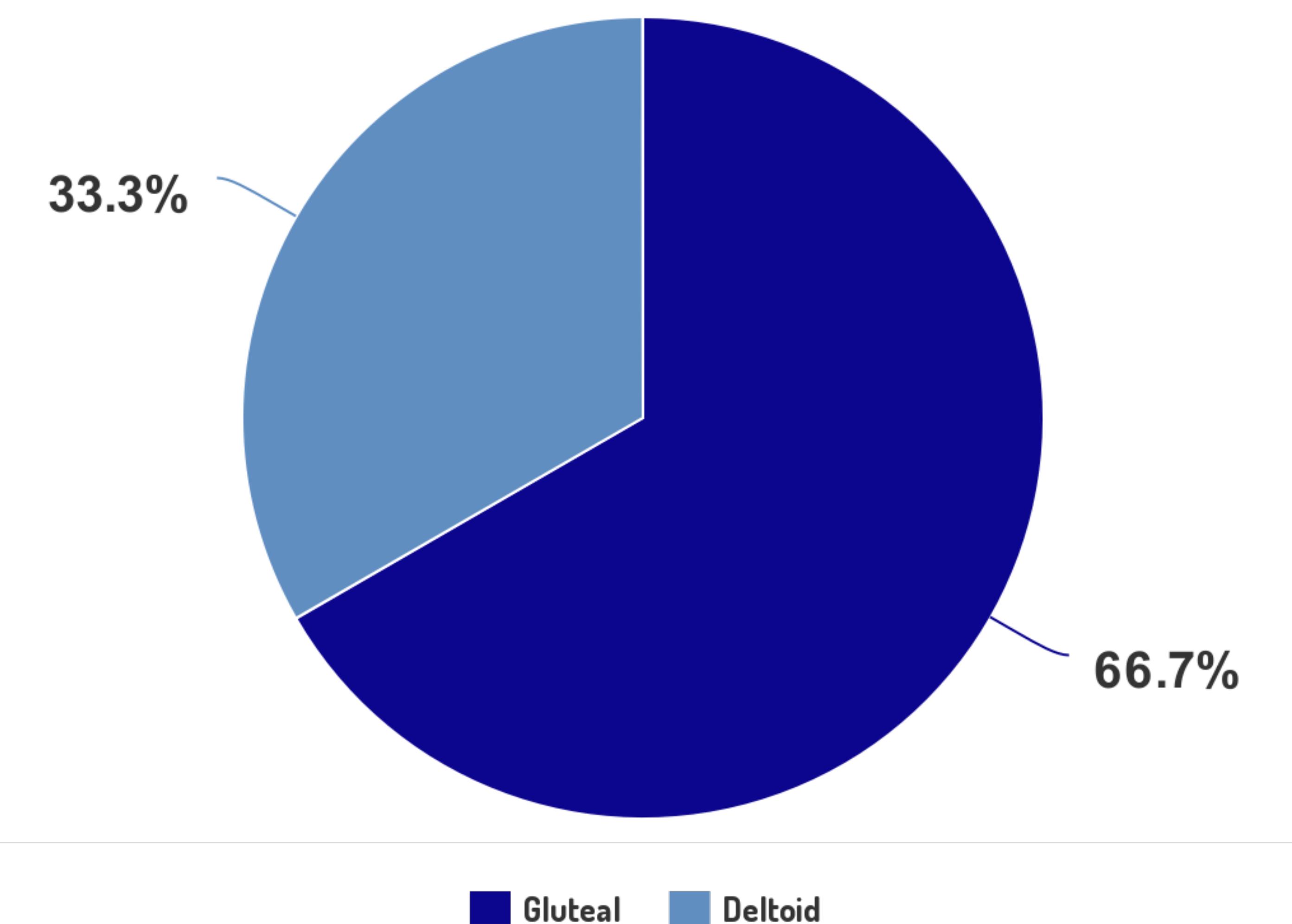
Thirty-seven patients were evaluated for the study inclusion. Three patients were excluded due to hospitalization on another unit and nine patients were excluded because they did not receive an oral dose of paliperidone before the paliperidone injection. A total of twenty-five patient were included in the study. Twenty-four patients received the 234mg dose of paliperidone palmitate and eighteen patients received the 156mg dose of paliperidone palmitate. Eight of the 234mg doses were given in the gluteal muscles (33%) and 12 of the 156mg doses were given in the gluteal muscle (66%).

Graph 1: Injection location of 234 mg dose.



Results (Continued)

Graph 2: Injection location of the 156 mg dose.



Conclusion

Although the initiation doses of paliperidone palmitate should be administered in the deltoid muscle to achieve therapeutic concentrations rapidly, 33% of the 234mg doses and 66% of the 156mg doses were given in the gluteal muscle on this acute behavioral health unit. The results of this study will be used to provide nursing education on appropriate administration of the paliperidone palmitate initiation doses. In addition, medication label changes that specify specific administration location for paliperidone palmitate initiation doses will be pursued.

Reference

1. Invega sustenna (paliperidone palmitate) [package insert]. Titusville, NJ: Janssen Pharmaceutical Companies; 2019.

Disclosure Statement

The authors have no conflicts of interest or funding source to disclose.