Long-Acting Injectable Antipsychotic Medications in Schizophrenia Management

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Received October 25, 2016; accepted November 16, 2016

ABSTRACT

Antipsychotic medications are indicated for the treatment of schizophrenia and other psychiatric disorders including bipolar disorder. However, oral antipsychotics are associated with a number of issues including poor treatment adherence. Long Acting Injectable (LAI) antipsychotics were designed to address these issues with oral antipsychotics. LAI antipsychotics offer several advantages including less frequent dose administration, better adherence and tolerability, and relapse prevention, which in turn help in improving patients’ quality of life. Recent development of atypical antipsychotics has the advantages over typical antipsychotics in terms of improved efficacy and tolerability. This review highlights the advantages and disadvantages of LAI antipsychotics, outlines the currently available LAIs and their indications, and real-world evidence for LAIs based on the observational studies.

KEYWORDS: Antipsychotics; Injectables; efficacy; tolerability; quality of life.

Introduction

Long-acting injectable antipsychotics (LAIs) such as risperidone, paliperidone, aripiprazole, and risperidone are commonly used in the treatment of psychotic disorders, particularly schizophrenia (Jarema et al., 2015). The goals of schizophrenia treatment include improved function and recovery across lifespan, with symptom reduction and relapse prevention. LAIs were developed in order to overcome the drawbacks associated with oral antipsychotics such as poor medication adherence (Sacchetti et al., 2015). However, they are not solely used to improve patient’s compliance, but also have other advantages including better tolerability, reduced frequency of administration, and maintenance of stable level of antipsychotics which assures better bioavailability. LAIs provide a persistent and effective blockade of dopaminergic D2 receptors in a range that is required to control psychotic symptoms, and also reduce the risk of abrupt treatment discontinuation (Jarema et al., 2015). Despite their widespread use, there are some concerns of LAIs due to slow dose titration, less flexibility of dose adjustment, longer time to achieve steady state levels, pain at injection site, and burden of frequent travel to outpatient clinics (Brissos et al., 2014).

Historical Background of LAI Development

The initial LAIs were based on first-generation antipsychotics or typical antipsychotics. Fluphenazine enanthate was developed as injectable in 1966 followed by development of fluphenazine decanoate, to address the issue of poor adherence to oral antipsychotics. Haloperidol decanoate became available in USA in 1986 (Brissos et al., 2014). The LAIs of second generation or atypical antipsychotics were recently developed to avail the advantages of both, improved efficacy and tolerability of atypical antipsychotics and increased compliance and better bioavailability of LAIs (Nahata and Saini, 2009; Offord et al., 2013; Brissos et al., 2014; Pesa 2015).

Available LAI Products

Currently, there are six LAI antipsychotics available for treatment of schizophrenia and other psychotic disorders. These include first-generation antipsychotics (Fluphenazine decanoate, and Haloperidol decanoate) and second-generation antipsychotics (Aripiprazole, Risperidone, Paliperidone and Olanzapine) (Jarema et al., 2015; Brissos et al., 2014). Table 1 outlines the characteristics of various LAIs.

Indications for LAI use

Current guidelines recommend the use of LAI antipsychotics for the maintenance treatment of schizophrenia among other available treatment options and when there is a need to improve patient’s medication adherence (Jaskelainen et al., 2013; Leucht et al., 2012; CG, 2005). Several guidelines recommend that LAI antipsychotics should be used only in patients with recurrent relapses related to partial or full non-adherence (Lehman et al., 2004; Lindenmayer, 2010; Mauri et al., 2014; LAIA, 2015; Marcus et al., 2015; McEvau et al., 2016).