Qutenza Patch - Our Early Experience

Abstract:
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Qutenza is a high potency capsaicin topical patch which has been recommended for the treatment of peripheral neuropathic pain. The aim of this study was to assess our selected patients’ response to Qutenza application. All patients had a primary complaint of chronic neuropathic pain and were asked to fill in a questionnaire before and after patch application for three months post application. Patients were also asked to document any changes to the character of their pain, mood and as well as any changes to their medication usage. 21 patients had Qutenza applied in a 5 month period. 17 patients completed the questionnaire in a 5 month period. We found that the mean overall reduction in pain score at 3 months was 32.7%. 8 of our patients (47%) reported improved sleep, activities of daily living and mood. 6 patients (35%) reported a reduction in medication use, while 7 (41%) reported an improvement in the character of their pain.

Introduction

Capsaicin is the compound in chilli peppers that makes them taste hot. The active ingredient in hot pepper was first isolated more than a century ago. In 1997, scientists at the University of California in San Francisco discovered a gene for the capsaicin receptor, called the vanillioid receptor. Qutenza is a high potency capsaicin (8%) topical patch which has been recommended for the treatment of non-diabetic peripheral neuropathic pain including post herpetic neuralgia and human immunodeficiency virus (HIV) associated neuropathy. Qutenza is a cutaneous patch containing 17mg of capsaicin per 280cm2 patch equivalent to 8 % by weight. Other agents used in the treatment of peripheral neuropathic pain include anticonvulsants such as gabapentin or pregabalin, anti-depressants such as amitriptyline or duloxetine and lignocaine 5% topical patch. Opioids and low concentration capsaicin products are recommended as second or third line agents for the treatment of neuropathic pain. It is usual in chronic pain practice to use a combination of these agents because of the resistant and debilitating nature of neuropathic pain, however the evidence for this practice is lacking. The European Federation of Neurological Societies does however recommend a combination therapy approach when monotherapy is insufficient. Combination therapy however should employ medications with differing mechanisms of action.

Although lower concentrations of capsaicin (0.025% to 0.1%) have been available for many years, Qutenza is the first high concentration (8%) formulation available. It decreases pain by reducing transient receptor potential vanililloid 1(TRPVI) expression and by decreasing the density of epidermal nerve fibres in the application area. The TRPVI receptor is a ligand-gated ion channel receptor expressed on nociceptor neurons on the skin and when applied initially, causes an increased sensation of pain, followed by a decreased sensitivity to pain over time. TRPVI expression is reduced second mechanism of action is thought to be neurolytic i.e. to reduce the density of epidermal nerve fibres. Reinnervation has been shown to occur over time. Systemic absorption from Qutenza is low, with only a third of patients after a 60 minute application showed sign of absorption. Metabolism of capsaicin occurs primarily in the liver and excretion of unchanged capsaicin is low. Metabolites were not detected in patients in pharmacokinetic studies. The common adverse drug reactions are application site erythema 63(%) and application site pain 42(%)7.

Methods

Between February and June 2011 twenty one patients were referred for application of a Qutenza patch from our hospital's chronic pain outpatient clinic. All patients were instructed as to what was required of them, the patch application process took place in a dedicated minor operation theatre. The patients selected for treatment had their dynamic pain score recorded prior to application and were asked to fill in a standardised Pain Diary for three months post application. Patients were asked to document any changes to the character of their pain, sleep, activities of daily living and mood as well as any changes to their medication usage. Patients were given a diary to note for three months and their diary information obtained (M = 8, F = 9). Six patients had no response to the treatment at all. The patch application process took place in a dedicated minor operation theatre. The patients selected for treatment had their dynamic pain score recorded prior to application and were asked to fill in a standardised Pain Diary for three months post application. Patients were asked to document any changes to the character of their pain, sleep, activities of daily living and mood as well as any changes to their medication usage. Patients were given a diary to note for three months and their diary information obtained (M = 8, F = 9). Six patients had no response to the treatment at all. The overall mean reduction in dynamic pain score of the 17 patients was 38% at one month, 35.7% at 2 months and 32.7% at 3 months. The results from these studies are broadly in line with our study results i.e. a mean reduction in numeric pain scores of approximately 30-35% however our study used patients of mixed presentations which suggest a broader range of neuropathic pain indications.

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Discussion

The main body of evidence for the use of Qutenza for chronic pain in the literature exists for non-diabetic painful neuropathy, particularly for the conditions post herpetic neuralgia and HIV associated neuropathy. The results from these studies are broadly in line with our study results i.e. a mean reduction in numeric pain scores of approximately 30-35%; however our study used patients of mixed presentations which suggest a broader range of neuropathic pain indications. All patients in our study were non-responder to the non-responding group; this may offer an explanation for the non-responders. This also suggests that diagnosis and patient selection are key in order to maximise the benefit of this new therapy. The advantages of Qutenza over conventional medical management for these conditions include low systemic absorption, less drug interactions and a combination therapy approach when monotherapy is insufficient. Combination therapy however should employ medications with differing mechanisms of action. Our Early Experience 1

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References