Study investigating the attitudes and opinions of cattle farmers and veterinarians in the UK on the use of non-steroidal anti-inflammatory drugs (NSAIDs) for post-disbudding analgesia of calves

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Abstract

The study examined cattle farmers’ and veterinarians’ opinions of pain-induced distress associated with disbudding and attitudes towards non-steroidal anti-inflammatory drugs (NSAIDs). An emphasis was placed on investigating pain perception, veterinary-client communication and factors influencing analgesic use. Data were collected from an online questionnaire, links to which were published in professional periodicals, promoted by industry organisations and distributed on private practice mailing lists. A total of 110 veterinarians and 116 farmers who regularly disbud calves completed the questionnaires. Of the respondents, 56% of veterinarians and 14% of farmers routinely use NSAIDs for disbudding. Respondents perceived disbudding to be severely painful without medication and 82% of veterinarians and 43% of farmers perceived post-procedural pain to persist beyond 24 h. There was a significant difference between female and male veterinarians’ pain scores for disbudding without medication. Veterinarians underestimate the influences of welfare and analgesic duration and effectiveness on farmers’ decisions and overrated cost impact. The study highlights that improvements in veterinarian-farmer communication regarding calf disbudding analgesia are required; both in terms of refining veterinarians’ understanding of farmers’ priorities and guiding clients on methods to improve calf welfare.

Keywords: analgesia, animal welfare, calves, disbudding, non-steroidal anti-inflammatory drugs (NSAIDs), veterinarian and farmer

Introduction

Disbudding and dehorning are routine husbandry practices (Stafford & Mellor 2005) used to reduce the likelihood of injury to personnel and other cattle (Bos taurus) (Misch et al 2007). Horn injuries can cause significant pain and distress, as well as damaging the carcass and hide, resulting in financial penalties (Stewart et al 2009). Dehorning involves the amputation of the horn, while disbudding is the destruction of horn germinal tissue in young calves to prevent horn growth. The Department of Environment, Food and Rural Affairs (DEFRA 2003) recommends that calves are disbudded prior to two months of age, ideally as soon as the horn bud is palpable, which varies between breeds (Stafford & Mellor 2005). Under the United Kingdom’s (UK) Protection of Animals (Anaesthetics) Act 1954/1964, all methods of disbudding and dehorning require a cornual nerve local anaesthetic (LA) blockade. The only exception being chemical cauterisation in calves less than one week old (DEFRA 2003). Thermal cauterisation with LA blockade is the recommended method for disbudding in the UK.

A number of studies have investigated physiological and behavioural indicators of the pain-induced distress associated with disbudding of calves (McMeekan et al 1998; Graf & Senn 1999; Grondahl-Nielsen et al 1999; Earley & Crowe 2002; Sutherland et al 2002; Gibson et al 2007; Stewart et al 2008; Heinrich et al 2010; Coetzee et al 2012; Stilwell et al 2012; Allen et al 2013). These studies similarly concluded that disbudding is a painful procedure which, without pain-relief, causes pain and suffering. It has been suggested that post-disbudding pain persists for up to 24 h (Faulkner & Weary 2000) and potentially 44 h (Heinrich et al 2010). It is generally considered that the LA used for disbudding and dehorning are effective at providing nerve blockage for up to 2 h (Heinrich et al 2009; Stafford & Mellor 2011). However, that can result in a period post-procedure where the LA blockage has worn off, with the animal experiencing pain and distress, particularly from the inflammatory response in the wound.

Non-steroidal anti-inflammatory drugs (NSAIDs) are routinely used in companion animal (Dohoo & Dohoo 1996a,b; Capnet et al 1999; Lascelles et al 1999) and equine practice (Waran et al 2010), however their usage is sometimes overlooked in farm animals (Barrett 2004; Whay & Huxley 2005) and they are not routinely used for disbudding.