

Case Report

## Povidone Iodine solution induced skin reaction- A case report

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**Abstract:** Irritant contact dermatitis is a less encountered adverse reaction of the commonly used antiseptic povidone iodine solution. It is an eye opener for all operating surgeons, to be aware of this adverse reaction of povidone iodine on topical application and also to ponder to opt for other safer antiseptic anti-bacterial agents like chlorhexidine. We present here case report of 66 year old patient with bilateral gross osteoarthritis of both the knees, which was taken up for bilateral total knee replacement surgery at a single setting. Due to povidone iodine dressing, the patient developed irritant contact dermatitis of the bullous type. Oral prednisolone and soframycin ointment was used locally, which healed the wounds by POD 14 without excessive scarring or infection.

**Keywords:** Chemical burns, irritant contact dermatitis, povidone iodine.

### INTRODUCTION:

Povidone iodine solution is by far the bench standard for dressing of wounds, be it traumatic or surgical in India. It is used for surgical preparation, during surgery as lavage and in the immediate post-op dressing as povidone iodine soaked gauze. So much so, they are employed in the ward and ICU dressings until suture removal. For years surgeons have been using it with great confidence. It takes only one case with complication of adverse reaction to povidone iodine to be seen, for all the confidence to evaporate into thin air and compelling us to reflect on, as to, if we have a better and safer alternative. Here in this case report we highlight the adverse reaction of severe irritant contact dermatitis caused by innocuous antiseptic anti-bacterial agents [1-3].

### CASE REPORT:

A 66 year old male patient was operated for bilateral gross osteoarthritis of the knee in a single sitting. The procedure carried out was bilateral Total

Knee Replacement. Routine operative precautions were followed. Patient was started preoperatively on parental ceftiazone iv BD 1gram. He was transfused three units of packed cell blood, during surgery. His intra-op blood loss was 310 ml and 275ml in either knee respectively. Post-op wound was closed with subcuticular suturing with 3.0 vicryl. Wound on either sides were dressed with povidone iodine 10% solution soaked sterile gauze. Postoperatively the patient had mild temperature of 100 degrees Fahrenheit on Day 1 and 100.6 degrees Fahrenheit on Day 2. On POD 2 it was planned for DT removal. Upon opening the dressing was seen this gross reaction at the operative surgical site (fig.1). A dermatologist consultation pointed to it being a severe irritant bullous contact dermatitis due to exposure to povidone iodine. As advised by the dermatologist, patient was initiated on methyl prednisolone 10 mg bd PO, along with soframycin ointment dressing locally. By POD14 the lesion had healed without significant scarring or infection (fig.2).



**Fig. 1**

**Fig. 2**

#### **DISCUSSION:**

10% povidone iodine has been the gold standard for dressing of all types of wounds either traumatic or surgical. It is copiously used during surgery and even as a lavage after diluting with saline. In orthopaedic surgery especially it is considered a very useful drug for external use. But it will take only one adverse reaction encounter to make the surgeon think of using povidone iodine again. It was rechecked that this batch of povidone iodine was not expired and it was manufactured by a reputed Indian pharmaceutical company. We need to educate all the doctors that irritant contact dermatitis should always be considered as a probable diagnosis, developing lesions resembling burns. Surgeon should always consider using safer alternatives like chlorhexidine solution, cutasept or Isopropyl alcohol. Manufacturing companies must try making iodophores that contains the iodine molecule linked with a larger molecular weight organic compound which makes it behave like a polymer. These polymers have a longer antibacterial action and a significantly lower irritant profile [4].

#### **CONCLUSION:**

Topical use of povidone iodine 10% solution is not free from severe adverse reactions. One should remember to keep irritant contact dermatitis resembling burns in the differential diagnosis in such cases [5].

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