ejpmr, 2018,5(4), 412-413

SJIF Impact Factor 4.897

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Case Report

ISSN 2394-3211

EJPMR

BROKEN HYPODERMIC NEEDLE PRIOR TO SPINAL NEEDLE INSERTION: AN UNUSUAL COMPLICATION

Dr. Anisha Singh*, Dr. Deepak G. P. and Dr. Lalit Gupta

Department of Anesthesiology and Critical Care, Maulana Azad Medical college, University of Delhi, India.

***Corresponding Author: Dr. Anisha Singh**

Department of Anesthesiology and Critical Care, Maulana Azad Medical college, University of Delhi, India.

Article Received on 29/01/2018 **Article Revised on 19/02/2017** **Article Accepted on 11/03/2018**

ABSTRACT

Hypodermic needles are routinely used for local instillation prior to spinal anesthesia. However, their breakage is a rare yet a possible event. Such incidence can result in morbidity as well as legal consequences against the operator. We describe a case report of a 24 years old parturient who came for emergency caesarean section, where the needle broke off while injecting local anesthetic before inserting the spinal needle but could be retrieved successfully.

KEYWORDS: Broken, Hypodermic needle, Spinal needle, Local anesthetic.

INTRODUCTION

Broken hypodermic needle are totally unheard rather to say under reported in the field of regional anesthesia. This can be possible probably due to improved quality of steel used for the manufacture of needles & use of disposable hypodermic needles nowadays. Previously quite a few number of cases of spinal needle breakage and precautions to avoid such incidences have been mentioned and reported in the literature.[1] But there is paucity on incidence of hypodermic needle breakage, although these are used for local anesthesia injections prior to almost every type of regional anesthesia. Understanding that a needle can also break while administrating local anesthesia, can help in preventing legal actions and morbidities caused due to retained needle in the body.

CASE REPORT

A 24 years old primigravida parturient presented for a caesarean section in emergency gynecological operation theatre with no other co-morbidities. On examination, vitals, airway and spine examination were within normal limits and no abnormality detected in systemic examination. Subarachnoid block was planned with 10mg 0.5% heavy bupivacaine. After attaching standard ASA monitors and oxygen source @ 8L/min through a venturimask (FiO_2-50%), patient was positioned in left lateral position and cleaning and draping done. Intervertebral space was identified between lumbar spine 3 & 4. 1ml of 2% lignocaine was injected intradermal to raise a wheal, needle was further advanced in midline without any resistance to instill further drug but before drug could be injected, the needle broke apart from the hub (Figure1). Since a part of the needle was visible outside on the skin, it was gently pulled out intact and successfully using a forceps.

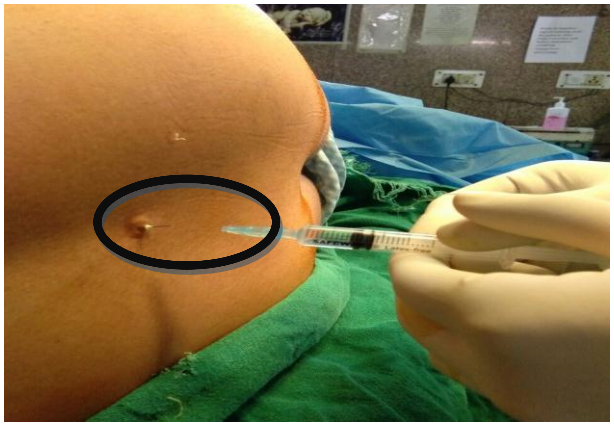

Figure 1: Broken hypodermic needle.

DISCUSSION

Operators can significantly reduce such needle breakage incidences by taking following simple preventive measures and being aware of possible breakage events. Prior informed intimation must be given before insertion of needle to avoid sudden unexpected jumping of the patient during administration of the injection. Inspection of the needle for any irregularities prior to its use must be practiced. A good quality disposable needle which conforms to European standards and be CE certified must always be used.[2] Avoid using very fine gauge needle as it will have less tensile strength. Needles should not be manipulated prior to use, like bending etc. When giving local anesthetic injections, needles should not be subjected to extreme or repeated movements, nor should they be inserted against resistance. Needle deflection and changing needle direction while the needle is located deep in the tissue should be avoided. Skin is the most pain sensitive part and which needs thorough infiltration of local anesthetic as compared to

deeper tissue, so avoid aggressive contact with hard tissue to prevent tip of the needle breakage or bending and tissue tearing.[3] The weakest point of a needle is the needle-hub junction,[4] hence needle length need not to be completely buried till the hub.

WHO guidelines also recommend that while inserting the needle, one quarter to one-third of the shaft should always be kept above the skin.[5] Following this rule, even if the needle breaks, it can be easily retrieved as a part of it would be extruding from the tissue.

If needle breaks, patient should be asked to calm and not to move, so as to prevent the broken part from going deeper into the tissues. If it is at the same level as the skin, the area around that site can be pressed gently until the broken part is visible. But in case, none part is visible surgical intervention might be required for complete removal.[6]

CONCLUSION

Adequate knowledge on how and why needles can break can avoid such incidences. We must emphasize on the safe and correct practice of needles use by the practitioners to avoid morbidity and further medico-legal complications related to the patients. We recommend that such cases must be reported and presented at appropriate forums so that a caution level is maintained for prevention of such events.

REFERENCES

1. Thomsen AF, Nilsson CG. Broken small-gauge spinal needle Anesthesia & Analgesia. 1997 July; 85(1): 230-231.
2. Bailey E, Rao J, Saksena A. Case report: fractured needle in the pterygomandibular space following administration of an inferior dental nerve block. Dent Update, 2015; 42: 270–272.
3. Van der Bijl P. Injection needles for dental local anesthesia. Compend, 1995; 16: 1106-1115.
4. Robinson PD, Pitt Ford TR, McDonald F. Local Anaesthesia in Dentistry. Oxford: Wright, 2000.
5. Guidelines on basic training and safety in acupuncture (1999) who.int/medicinedocs/en/d/Jwhozip56e/4.3.7.html.
6. Minu MG, Alejandro RR, Joni KB. A continuous subcutaneous insulin infusion needle break. Clin Diabetes 2015 Oct; 33(4): 195-197.