Acta Neurophysiologica
ISSN: 2996-7554

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Letter to Editor *Volume 5 Issue 4*

NOCEBO: From Anaesthesiologists Viewpoint

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Received Date: November 12, 2024; **Published Date:** November 21, 2024

Introduction

Nocebo is the adverse health event that is induced secondary to negative expectations brought by certain words or actions. It is the counterpart of placebo in clinical trials, where positive effects are brought out secondary to an inert stimulus with the aid of positive expectations. Handling of both placebo and nocebo plays a vital role in achieving the desired treatment effects and avoiding the side effects. Nocebo effect is mediated by distinct neurobiological mechanisms. Studies with functional magnetic resonance imaging show that when pain is expected, there is increased neural activity seen in hippocampus and mid-cingulate gyrus, which is not noted when analgesia is expected [1]. Nocebo can be influenced by various other external events also such as media. Example when the world knew the fact that covishield vaccine can cause thrombosis with thrombocytopenia syndrome, everyone who received the vaccine started anticipating it even though the rate of its incidence is very less.

Anaesthesiologists, who are commonly said to have less patient interaction, spend most of it during pre-operative evaluation and informed consent taking. One should be diplomatic in explaining the benefits and adverse events of the procedure. Example during informing about general anesthesia, some say that cannulating the vein is most painful part overall and post that nothing will be felt. Information like these can start making the patient anxious about it and the anxiety multiplies when patient actually enters the operating room. It is important to develop the skills of being pleasantly tactful and well-mannered in conversations while explaining such procedures.

For an anaesthesiologist, the day never ends without doing a procedure. It can range from intravenous cannulations to intubations and more. Nocebo is omnipresent. Explaining the procedure clearly before doing it helps in dealing with the anxiety of patient. When procedure is actually done, the negatively reinforcing words should be avoided and more of neutral statements, positive suggestions and distractions have to be used. Example during an intravenous cannulation, terms to describe it such as 'bee sting', 'worst part' can generate more painful response in patients. Instead, positive sentences such as 'most patients tolerate it well'; 'young patients like you usually do not have a problem' can help in alleviating their anxiety and pain. Another proven distraction is slightly coughing during injections can forestall pain. A study done in obstetric patients posted for cesarean section under spinal anesthesia showed that using comforting words before local anesthetic infiltration had a median visual analog pain scale score lesser than who heard words that triggered nocebo [2].

Extinguishing the nocebo effect in each patient can be arduous with regards to the limited time availability of the clinicians. Three important strategies to minimise nocebo are mentioned in Figure 1. Extensively discussing about the treatment options and whenever possible, letting the patient choose can be very encouraging [3]. Enlightening the patient about the concept of nocebo itself can help them alleviating it. Enhanced communication with the patient by anesthetist one day before surgery can reduce patients worry while entering the operating room. One study in which patients were informed about the nocebo phenomenon and authorized concealment was taken in patients who did not want to know the side effect of a drug [4]. This group of patients experienced significantly less adverse events. Screening of patients who are at high risk of encountering nocebo effects should be done in pre-operative evaluation and individualized intervention should be designed for them. These patients might have experienced a nocebo

event previously at any point of their medical history. Countermanding these events can be challenging, but technics such as extinction and counter-conditioning can be used.

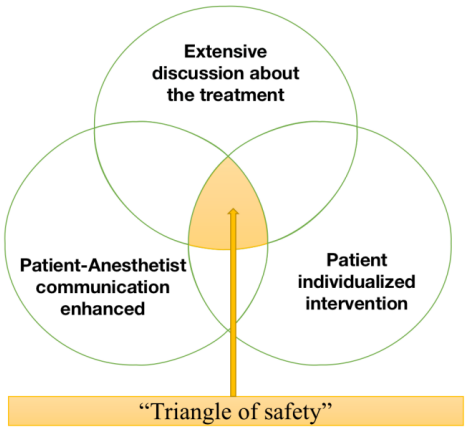

Figure 1: Three domains of minimising nocebo effect.

Anaesthetist encounters many nocebo situations during everyday practice and most of them are expected during invasive procedures. Henceforth, it is of paramount importance to be prepared for these situations and to regularize minimising nocebo effects. Skilled communication is the key aspect in mentally preparing any patient thus all clinicians should start practising the art of vocally comforting the patient.

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