

## **APPLICATION OF THE ELECTROACUPUNCTURE ANALGESIA (EAA) FOR SURGICAL TREATMENT OF ALLERGIC PREDISPOSED PATIENTS**

Dobrev D., D. Kirova, Hr. Lalabonova  
*Department of Oral Surgery  
Faculty of Dentistry  
Medical University – Plovdiv, Bulgaria*

### **ABSTRACT:**

The surgical intervention needs sufficient analgesia. The authors share their experience with on electroacupuncture (EAA) method in surgical treatment of allergic predisposed patients (man and women, age 25 – 60). The authors influence over 3 facial located acupuncture points and 2 distal bodies- located with OZ-22 (EAA-apparatus) for 20 – 25 min before the surgical intervention. The anesthesia rate, reactions of patients and the major vital parameters are observed, measured and evaluated with special score. Total or partial analgesia was found in 55% (10 patients).

The main characteristics of the EAA are low price, easy management, nontoxic and noninvasive technique. The authors considered EAA as a method of choice for patients with medication allergies and somatic chronic diseases.

**Key words:** pain control, electroacupuncture analgesia, oral surgery

### **INTRODUCTION**

Acupuncture as a method of influence over biologic active points is matter of interest in the modern medicine recently [21, 23, 24, 31]. Due to its harmless and indisputable therapeutic effects the acupuncture is point of consideration for years [1, 2, 3, 23]. Because of its analgesia inducing effects when certain points on the ear are affected the method became more and more attractive for anesthesiologist and surgeons [22, 27]. This interest stimulates the development of new modified method in anesthesiology practice-acupuncture analgesia and electro acupuncture analgesia (EAA) [5, 6, 29].

The method of EAA is applied firstly in China (1958) during surgical interventions (tooth extraction and tonsillectomy). In 1959 is edited "Acupuncture analgesia" that summarized the experience of some leading Chinese clinics. For the last five decades the EAA method gains admiration all over the world, especially in China, Russia and France.

There are some theories that interpret the analgesic effect of EAA [3, 4, 7, 11, 12, 14]. Except the traditional Chinese "Vital Energy theory" two modern hypotheses ex-

plain the EAA analgesic mechanism: According to Melzack R. and Wall P. "flap-theory" the puncture needle blocks the nerve impulse transmission (suppressed the thinner "nociceptive" fibers) by irritating the thicker nerves fibers of the skin receptors. The second hypothesis concerns the neurohumoral mechanism of endogenous Enkephaline and Endorphine secretion (substances with mighty analgesic and sedative effects) [4, 16, 17, 18].

The main characteristics of EAA method are the low price, easy management, lack of allergy incidences, nontoxic and noninvasive technique. Hemorrhages after the extraction in patients with EAA are less than the other, blood pressure and pulse remain stable. On the other hand, the standard analgesia techniques are seriously limited in their indications because of the great rate of allergy predisposed patients [13, 15, 21].

### **AIM**

The purpose of this "in vivo" study was to examine the effectiveness of EAA as method for analgesia during operative interventions in oral surgery domain, as well as to determine its indications for patients with attending diseases.

### **MATERIAL AND METHODS**

16 allergic predisposed patients were included in this study (9 women and 7 men, aged 25-60). Diazepam in doses 0.2- 0.3 mg/kg was administered i.m. 20-30 min. before the needle puncture. The EAA was performed by influencing over 3 facial located acupuncture points and 2 distal-body located, with OZ-22 (EAA apparatus) for 20-25 min before surgery. The Maxilla interventions were accomplished with St6, Tc18 point influence [19, 20, 22, 27], then Mandible with St7, Psr4. The distal puncture points were Dch4 and St36. After needle fixing the alternating current (a.c.) with 10Hz frequency start giving till patient's reaction of completeness and rigidity in acupuncture area occurs. The current intensity has been increased to reaction of unbearable irritancy or muscle contractions. The surgical interventions were performed after 20-25 min, accom-

plished with EAA stimulation all the time. If any traumatic moment occurs then the amplitude and current frequency were increased. For the distal tooth surgery the needles were fixed homolaterally, then for medial tooth bilateral position were singled out.

The analgesia rate of EAA was evaluated for any patient individually with special score. The patient's reactions as well as the vital parameters (pulse, breathing motions frequency, blood pressure, and electric heart activity) were observed, measured and evaluated. The scale of Luvsane[10] was used:

- o *Absence of pain*(++)
- o *Partial pain experience*(+)
- o *Non sufficient analgesia*(+ -)
- o *No effect*(-)

The indexes dynamic made the EAA effectiveness evaluation objective [10].

## RESULTS AND DISCUSSION

The data analyses showed that in 4 patients with tooth extraction due to exacerbated chronic apical periodontitis, 3 patients with alveolar curettage after postextraction alveolitis and one with alveolar reconstruction in 13 teeth area were observed absolutely absence of pain. Partial pain

management was observed in 3 patients with maxillary tooth extraction. The other patients (extraction of impacted third mandible molars, perimandible abscesses) reported non sufficient analgesia or lack of EAA effect at all.

The blood pressure before and after surgery remained stable in the group with EAA positive effect. In the other group (lack of EAA positive effect) the blood pressure, pulse rate and breathing motion rate were significantly increased. All treated patients remained their sense of touch during surgery. The wound healing and postoperative period was no complicated without any additional drug administration.

## CONCLUSIONS

1. The method of EAA as method for analgesia in oral surgery interventions is effective and advisable in allergic predisposed patients [13].
2. The method do not requires special conditions, possesses easy management and is cost-effective [8, 9].
3. The EAA method does not lead to any postoperative complications, reduces embarrassment of physiological function and promotes early recover that make it advisable for patients with chronically illness [11, 12, 14].

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**Address for correspondence:**

Hristina Lalabonova, PhD, MD  
 Department of Oral Surgery, Faculty of Dentistry  
 Medical University-Plovdiv  
 24 , Veliko Tarnovo Str., 4000 Plovdiv, Bulgaria  
 Mobile: +359/888 608 406; e-mail: lalabonova@abv.bg