HISTOLOGICAL STRUCTURE OF THE HUMAN BIOLOGICALLY ACTIVE POINT (BAP) ST₃₆

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ABSTRACT

Biologically active point (BAP) ST₃₆ is one of the most important and most commonly used points in the traditional Chinese medicine (TCM). A correlation between the location of acupuncture points and channels in humans and animals has been established. In the human ST₃₆ is located on the stomach meridian - 3 cun (1 handbreadth) down and 1 fingerbreadth lateral to the anterior crest of the tibia, on the tibialis anterior muscle. The target of this study is to describe the histological structure of biologically active point (BAP) ST₃₆ in the human by using the classic histological techniques. We observed normal histology structures in ST₃₆ point in the human.

Key words: acupuncture, BAP - biologically active point, histology, human, ST₃₆, traditional Chinese medicine (TCM).

INTRODUCTION

Biologically active point (BAP) ST₃₆ is one of the most important and most commonly used points in the traditional Chinese medicine (TCM) (1). A correlation between the location of acupuncture points and channels in humans and animals has been established (2). In the human ST₃₆ is located on the stomach meridian - 3 cun (1 handbreadth) down and 1 fingerbreadth lateral to the anterior crest of the tibia, on the tibialis anterior muscle (3).

Aim and objectives

The aim of this study is to describe the histological structure of biologically active point (BAP) ST₃₆ at the human by utilizing the classic histological techniques.

METHODS

We took material from the ST₃₆ point of human cadavers. The ST₃₆ point was localized by determining relations between standard anatomical structures and with the help of KWD-808 device for measuring the skin conductivity (4). The material was embedded into paraffin and cut in 5 µm thick sections. Four standard stains were applied: Mallory, H&E, toluidine blue and Bismarck brown.

RESULTS

In the ST₃₆ point in the human normal histology structures were observed: skin, subcutaneous adipose tissue, blood vessels,

nerves, sebaceous and sweat glands, and mast cells. (**Figures 1A, B; 2A-F**). In some areas of the skin indentations and differences in the thickness of the epidermis and the loose connective tissue layers were found, but these differences were not pronounced. In the subcutis of the ST₃₆ point in the human a large number of lymphocytes were demonstrated. The superficial fascia was found to blend with the reticular layer of the dermis. Elastic fibers were found around the glands, the hair follicles, and superficial fascia. In human skin mast cells were visualized around the blood vessels, the sweat glands, the sebaceous glands, and the hair follicles. (**Figures 2C, E, F**).

DISCUSSION

This normal histology structures are confirmed by other authors. (5, 6, 7, 8, 9, 10). No significant differences between the skin structure of acupuncture point ST₃₆ and normal skin outside the said point could be defined, despite such differences were reported by other authors (11, 12).

CONCLUSIONS

In the human ST₃₆ point we observed normal histology structures. Accumulation of mast cells, primarily in the vicinity of blood vessels and around the glands and the hair follicles, was observed.

Figure 1. (A) Routine H&E and Mallory (B) staining to visualize normal histological structures in ST36 point in the human. Epidermis (Epi), dermis (Derm) and subcutaneous adipose tissue (SC). Scale bars: 50 μ m.

Figure 2. (A-E) Toluidine blue staining and specific Bismarck brown staining (F) to illustrate the mast cells (arrows) in the field of ST₃₆ BAP. Note accumulation of mast cells on the epidermis – dermis border (A) and

around the hair follicles (C, E, F). Epidermis (Epi), dermis (Derm), hair follicles (hf), sweat gland (SG), blood vessels (BV). Scale bars: 50 μ m.

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