

## “Y” SHAPED SKIN INCISION FOR MEDIAN STERNOTOMY

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- ✓ Median sternotomy has been the standart approach for open heart operation. The incision starts from the substernal notch and runs downward. Skar tissue is visible at the lower neck, because of this, especially young women feel themselves unhappy . We described a new "Y" shaped skin incision. It is a simple and a cosmetically acceptable method for the median sternotomy.

**Key words:** Median sternotomy, open heart surgery

- ✓ **Median Sternotomi İin "Y" Biiminde Cilt Kesisi**

Median sternotomi, aık kalb cerrahisinde standart yaklařım biimidir. İnsizyon jugulumdan bařlar ve ařađıya dođru uzatılır.insizyonun ũst kısmının dıřarıdan grnebilir bir yerde olması, zellikle gen bayanlarda rahatsızlık meydana getirmektedir.

Bu yazımızda 'Y Őeklinde cilt insizyonu' adını verdiđimiz yeni bir insizyon tanımlanmakta olup, median sternotomi iin basit ve kozmetik aıdan kabul edilebilir bir yntem olarak grlmektedir.

**Anahtar kelimeler:** Median sternotomi, aık kalb cerrahisi.

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### INTRODUCTION

Most popular incision for open heart operation is vertical midline skin incision which extends from the jugulum to a point about 5 cm. above the umbilicus. The skin scar of this incision is visible at the lower neck. Thus, the incision is cosmetically unsatisfactory. After some operations as atrial septal defect, pulmonary stenosis, in which the operative mortality is about zero, incision scar becomes important especially in young female patients who can not wear low-necked dresses and swimsuits because scar tissue looks esthetically bad.

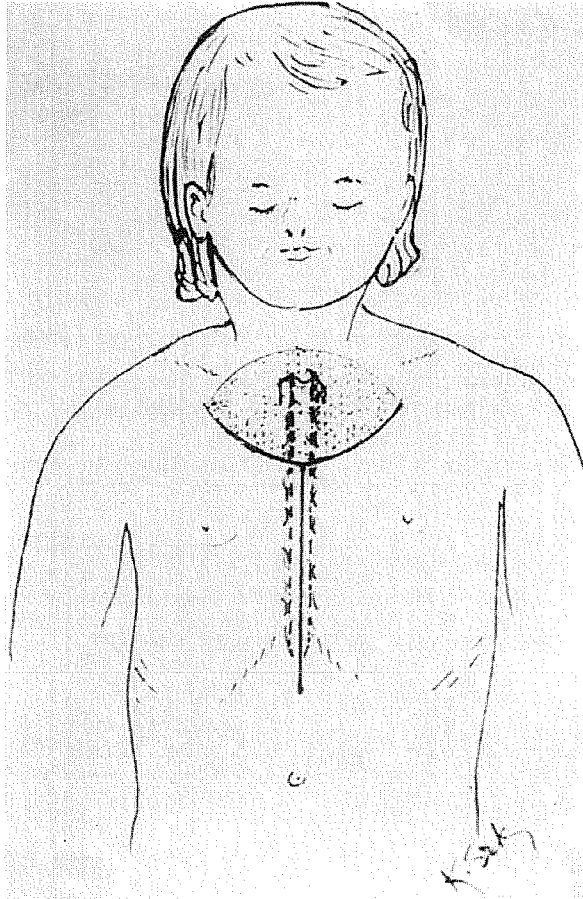
We have used "Y" shaped skin incision in an effort to improve the cosmetic results in selected prepubertal girls and young female patients for many years.

### MATERIALS AND METHODS

Between January, 1982, and January 1996, 16 young female patients have been operated by "Y" shaped skin incision for median sternotomy. Ages ranged between 4 to 21 years. Thirteen of them had secundum type atrial septal defect and 3 pulmonary valvular stenosis.

Although this incision is explained as Y shaped, upper part is rather curved. Lower point of the curve is just at the level of the manibrium (Fig. 1). The incision is made down to the fascia overlying the pectoralis major muscle and the flap is elevated to the sternal notch (Fig. 2). The flap is attached to a towel by two- three traction sutures.

At the end of the operation, chest tubes are inserted and the sternum is approximated

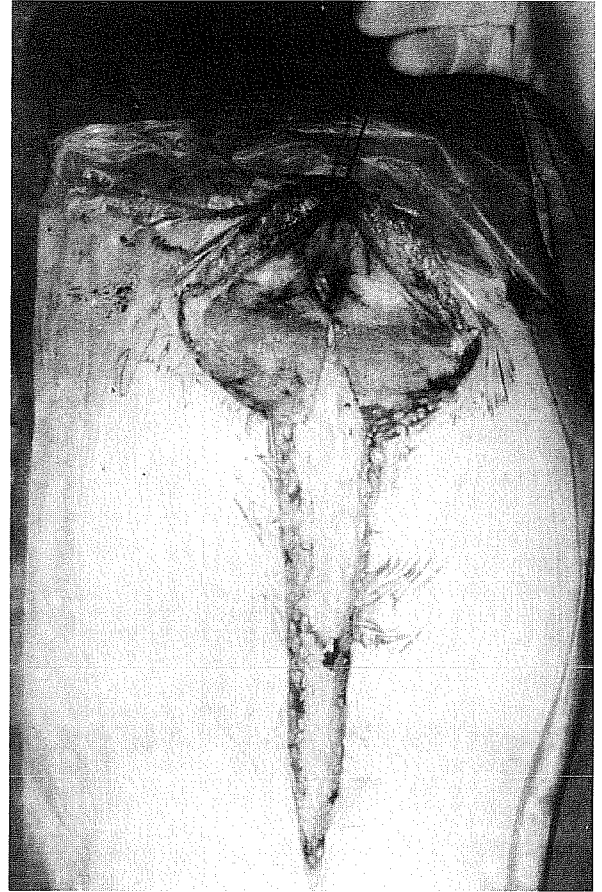


**Figure 1.** Schematic drawing of "Y" Shaped skin incision.

in usual fashion. The periosteum, fascia and subcutaneous tissues are closed carefully with a running, absorbable synthetic suture. The patients' postoperative courses were uneventful. Physical examination at the sixth month postoperatively indicated that skin scar was minimal.

#### **DISCUSSION**

Sternal vertical midline skin incision is most popular for open heart operation. Generally, the skin is incised starting 2 cm below the suprasternal notch to a point about 2 cm below the xiphoid process. For cosmetic reasons, the superior part of the



**Figure 2.** Dissection of the skin flap is extended until the sternal notch.

incision is made slightly shorter in female patients<sup>(1)</sup>.

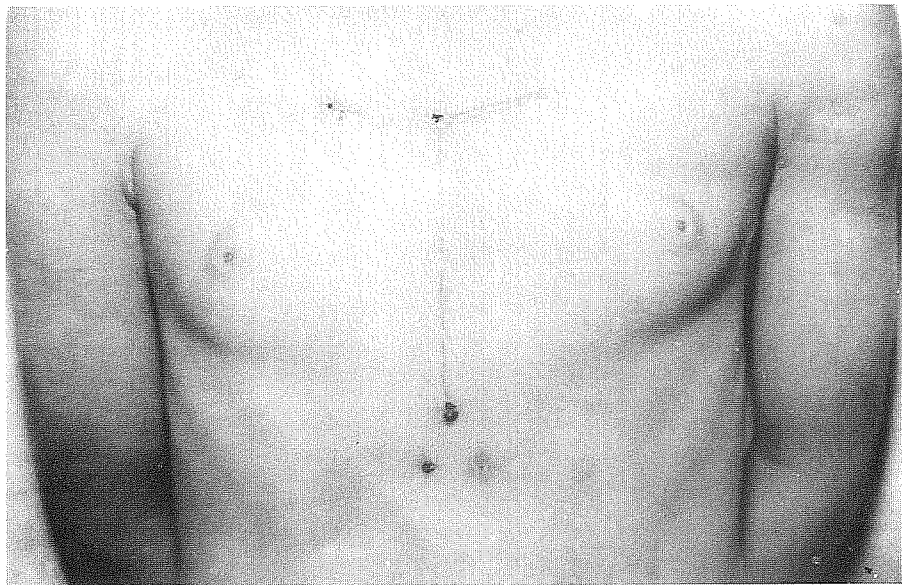
Especially in women undergoing short time and low-risk cardiac operations, the scar creates psychologic trouble postoperatively. The scar tissue can be visible when patients wear low-necked dresses and swimsuits. For cosmetic reasons a submammary skin incision has been recommended<sup>(2-4)</sup>. After which incision, the skin flap is raised superiorly and inferiorly, and then a midline sternotomy is performed in the usual way. Without doubt, this skin incision has better cosmetic appearance. To make midline sternotomy in this procedure,

larger dissection and more coauterization is necessary. On the other hand, it is quite a time consuming procedure. Subcutaneous hematomas needs vacuum drainage and skin necrosis may be seen after such a large flap dissection. Especially central part of the incisional healing needs revision of the flap.<sup>3</sup> In some cases disturbance of the breast development may occur<sup>(3)</sup>. Therefore, submammary incision has not gained popular support<sup>(5)</sup>. An anterolateral thoracotomy can be used for some types of cardiac procedures<sup>(5)</sup>. On the left this incision gives satisfactory exposure of the left atrial appendage, pulmonary artery and left ventricular apex. That is why, it is a suitable incision for closed mitral valvotomy and for banding of the pulmonary artery. On the right it gives good access to the right atrium and both venae cavae and has been used for intra-atrial correction of

transposition of the great arteries, and for closure of atrial septal defects. Right anterolateral thoracotomy has been advocated by some for mitral valve repair but midline sternotomy is now always preferable<sup>(6)</sup>.

In "Y" shaped incision, the skin flap dissection is necessary on the small area of the superior part. Transvers, curved part of the incision is parallel to the tension lines of the skin. That is why, an important result of this skin incision is minimal scar tissue (Langer lines) (Fig. 3). Upper side of this incision is not visible on the lower-neck. It settles more inferiorly and parallel to the brassiere line. On some cases incision is even covered by brassiere.

This procedure described is much easier, quicker and less complicated than the other previously recommended cosmetically acceptable incisions<sup>(2,3)</sup>.



**Figure 3.** Appearance of "Y" shaped skin incision after operation.

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