PUERPERIUM

ESSAY

Submitted for Partial Fulfilment of
Master Degree in
Gynecology and Obstetrics

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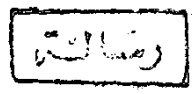

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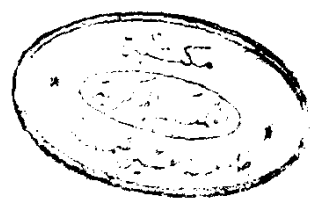

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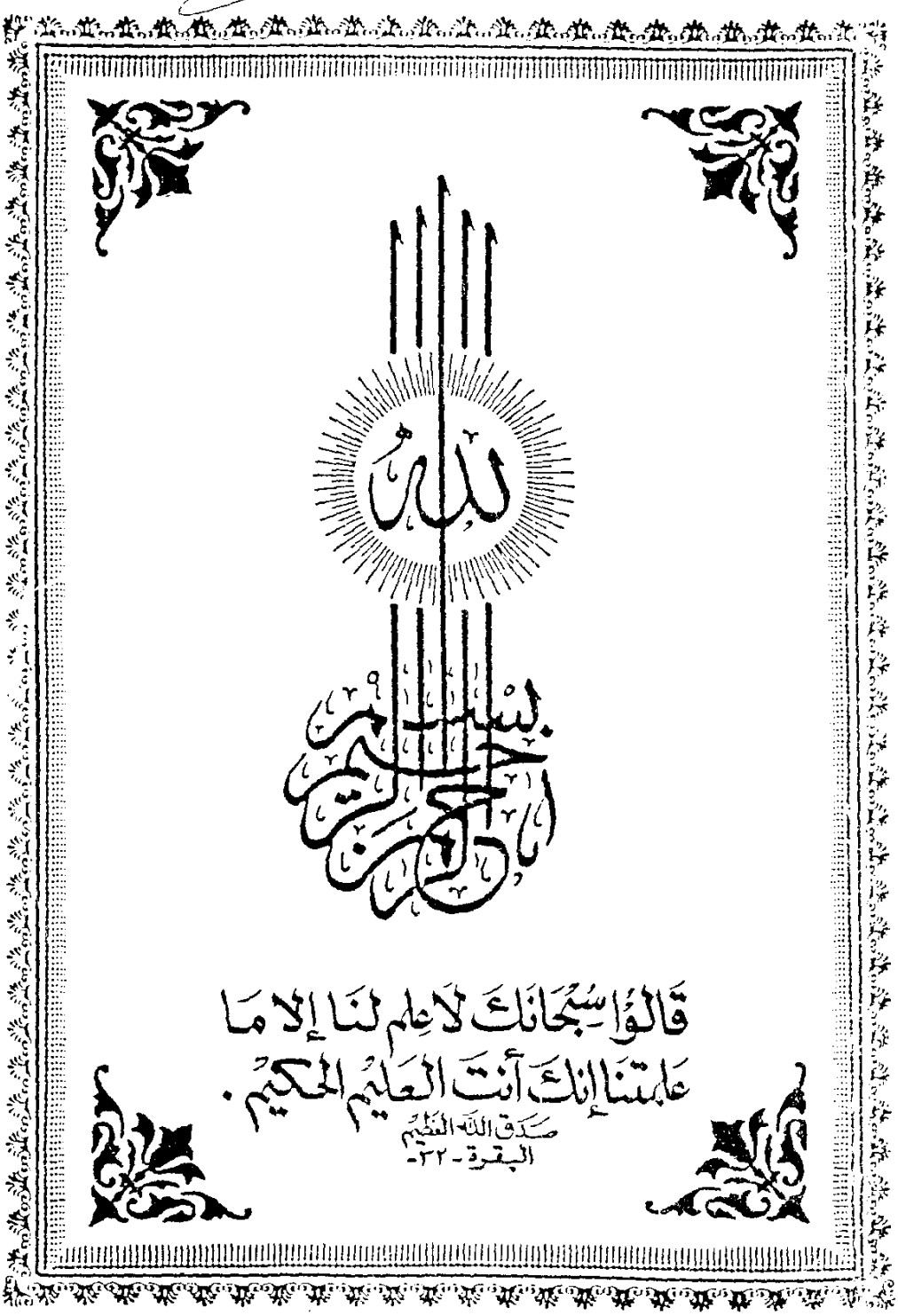

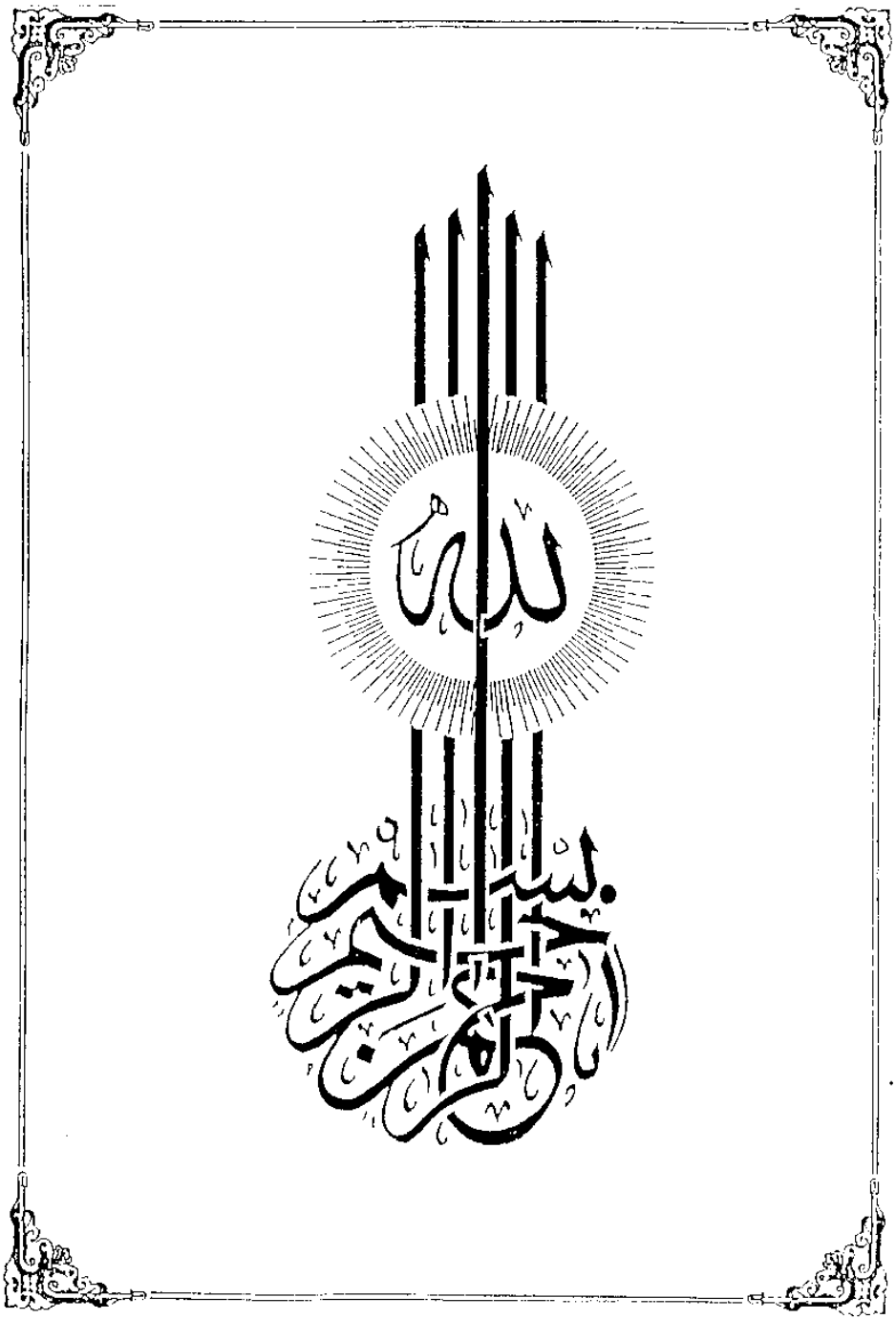

ACKNOWLEDGEMENTS

Before and above all thanks to GOD.

I would like to express my deepest gratitude to Dr. Saied Mohamed Tohamy, Prof. of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, for his continuous guidance, endless encouragement, supervision and support to perform and complete this work.

I would also like to express may thanks and supreme gratitude to Dr. Jehan Allam Hamed Saad, Assist. Prof. of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University, for her great help, support and continuous supervision and constant guidance.

Lastly I wish gratefully to acknowledge the help provided by the Department of Obstetrics and Gynecology, Faculty of Medicine, Ain Shams University.

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INTRODUCTION

Puerperium is the period of adjustment after pregnancy and delivery, when the anatomic and physiologic changes of pregnancy are reversed and the body returns to the normal non-pregnant state. This takes about 6-8 weeks.

The physiology of the hypothalamus, the pituitary and the ovaries during the puerperium are not well understood. It has long been held that increased prolactin levels inhibit release of gonadotropins, there by reducing ovarian steroid production and accounting for the physiologic puerperal amenorrhoea.

The lactating woman undergoes even further changes, following delivery, oestrogen, progestrone, prolactin, human placental lactogen, and insulin, those hormones promote breast growth and play a significant role in milk production. Mastitis is the most common complication of the breast seen during puerperium, if it is neglected it may lead to breast abscess.

Abnormalities of the puerperium which include infections and postpartum hemorrhage, which usually occurs during the first hour after delivery of the placenta, but serious blood loss may occur 2-3 weeks after delivery.

AIM OF THE WORK

I. Is to review the anatomic, physiologic, hormonal changes occuring during normal puerperium.

II. To review the abnormal puerperium.

III. Proposal management from the end of the 4th stage of labour to the end of puerperium.

NORMAL PUERPERIUM

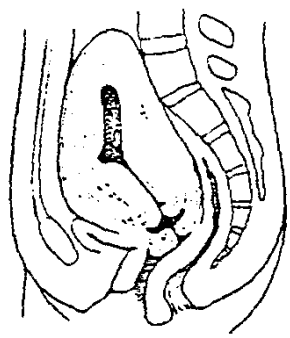
ANATOMIC CHANGES IN THE PUERPERIUM

I- Genital tract involution:

It is the anatomic changes that occur after delivery in uterus, cervix and vagina in order to return to the condition before pregnancy.

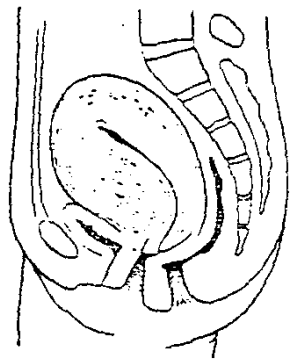
A- Involution of the body of the uterus:

Involution is due to the withdrawal of the oestrogen stimulation of RNA (and consequently protein) synthesis by the myometrial cells and by the activity of proteolytic enzymes breaking down the cytoplasm into soluble end products which are removed by the blood stream. At the same time phagocytes invade the collagen fibres between the myometrial cells and remove fat from the area. Involution is never complete, and a parous uterus is not identical with that of a nulliparous woman. With each pregnancy, the muscle weight and collagen content of the uterus increases by about 70 percent, at the same time elastin is deposited in the uterus mainly around blood vessels. In this way the uterus of high multigravida contains relatively more collagen and elastin, and is less efficient container for pregnancy, so that malpresentation, postpartum haemorrhage



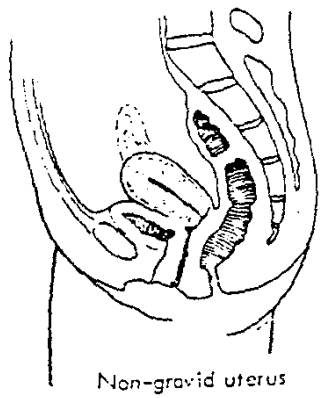
Uterus after delivery

(a)



Uterus at 6th day

(b)



Non-gravid uterus

(c)

Figure (1): (a, b, c)

(Garee et al, 1974)

and spontaneous uterine rupture are more likely to occur. *(Jones 1990)*

I. Changes in the weight of the uterus:

Immediately and following delivery, the uterus weighs about 1 kg and its size approximates that of a 20 - week pregnancy (at the level of the umbilicus). At the end of the first postpartum week, it normally will have decreased to the size of a 12 week gestation to be just palpable at the symphysis pubis. Ultrasonography can be used to measure length and width of the uterine cavity. *(Novy 1991).* (Fig. 1a,b,c)

2. Regeneration of the Endometrium:

Since the separation of the placenta and membranes involves primarily the spongy layer of the decidua, the basal portion of the decidua remains in the uterus. The decidua that remains has striking variations in thickness and is infilterated with blood, especially at the placental site.

The superficial layer becomes necrotic and is sloughed in the lochia. The basal layer adjacent to the myometrium, which contains the fundi of endometrial glands, remains intact and is the source of new endometrium. The endometrium arises from

proliferation of the endometrial glandular remnants and the stroma of the interglandular connective tissue.

The process of endometrial regeneration is rapid, except at the placental site. The entire endometrium is restored during the third week. (Pritchard and Macdonald 1981).

3. Involution of the placental site:

According to Williams 1931, complete extrusion of the placental site takes place up to 6 weeks. This process is of great clinical importance, for when it is defective, late puerperal hemorrhage may ensue. Immediately after delivery, the placental site is about the size of the palm of the hand, but it rapidly decreases in size. By the end of the second week, it is 3 to 4 cm in diameter, very soon after termination of labor, the placental site normally consists of many thromosed vessels, that next undergo typical organization of the thrombus .

If involution of the placental site comprised only these events, each pregnancy would leave a fibrous scar in the endometrium and subjacent myometrium, thus eventually limiting the number of future pregnancies. In his classic investigators, Williams (1931) explained involution of the placental site as follows: