Penile measurements in adult Egyptians

Thesis
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Abstract

Objectives : To determine the penile size in adult Egyptians and to clarify the relationship between fully stretched penile measurements in normal subjects and erectile dysfunction patients.

Methods : This study included 1027 adult Egyptians presenting to Kasr El-Aini outpatient clinic. Two groups of patients were included in this research work. Group one, normal adults (949) and Group two, erectile dysfunction patients (78). There were no differentiation of race, age, height and weight. Penile length and girth were measured using a ruler and a tape-measure respectively, in the fully stretched states in both groups. All penile measurements were performed by the same physician.

Results : In group one : The mean of fully stretched length was 12.9 ± 1.9 cm and the mean of fully stretched girth was 8.9 ± 0.9 cm.

In group two : The mean of fully stretched length was 11.2 ± 1.5 cm and the mean of fully stretched girth was 8.8 ± 0.8 cm. Comparing the mean of fully stretched penile lengths in both groups revealed statistically significant difference ($P<0.001$) between them, while comparing the mean of fully stretched penile girths in both groups revealed statistically non-significant difference ($P=0.474$) between them. There was significant positive correlations between fully stretched penile lengths and fully stretched penile girths in both groups.

Conclusion : The average of fully stretched penile length in normal potent Egyptians is 12.9 cm, while the patients with erectile dysfunction tend to have significantly shorter penises (11.2 ± 1.5 cm).

Key Words : penis; measurement; fully stretched length and girth; Egypt.

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5-HT	:	5-hydroxytriptamine (Serotonin)
ACTH	:	Adrenocorticotrophic hormone
AD	:	Anno Domini
APA	:	American Psychiatric Association
ATP	:	Adenosine triphosphate
BDD	:	Body dysmorphic disorder
cAMP	:	Cyclic adenosine monophosphate
CBT	:	Cognitive behavioural therapy
CC	:	Corpus cavernosum
Cm	:	Centimeter
DHT	:	Dihydrotestosterone
DM	:	Diabetes Mellitus
DSM	:	Diagnostic and statistical Manual of Mental disorders
ED	:	Erectile dysfunction
et al.	:	et alii (and other coworkers)
Fig.	:	Figure
FSH	:	Follicle stimulating hormone
GH	:	Groth hormone
Gn-RH	:	Gondotropine releasing hormone
hcG	:	Human chorionic gonadotropine
ICI	:	Intracavernous injection
IIEF	:	International Index of Erectile Function
In	:	Inch
ISIR	:	International Society of Impotence and Research
J.	:	Journal
LH	:	Luteinizing hormone
mm	:	Millimeter
MRI	:	Magnetic resonance imaging
NA	:	Not available
NO	:	Nitric Oxide
No.	:	Number

OCD	:	Obsessive – compulsive disorder
P	:	Probability
P., pp.	:	Page, Pages
PD	:	Peyronie's disease
PGE1	:	Prostaglandin E1
S2, S3, S4	:	Sacral spinal segments 2, 3 & 4
SD	:	Standard Deviation
SM	:	Smooth muscle
SPS	:	Short Penis Syndrome
T	:	Testosterone
T11, T12, L1 and L2	:	Thoracic and lumber spinal segments
T3	:	Triiodo thyronine hormone
T4	:	Thyroxine hormone
TA	:	Tunica Albuginea
TSH	:	Thyroid stimulating hormone
UK	:	United Kingdom
Yr, yr(s)	:	Year (s)

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INTRODUCTION

Concerns over penile size and a desire for a longer penis are common in the population. The number of male patients seeking an andrological consultation for the problem of "short penis" is increasing *(Mondaini et al., 2002)*.

The size of the male organ, both flaccid and erect, has been equated by widely diverse cultures to reflect the sexual power of the individual male. In 1966, *Masters and Johnson* stated that, historically, Even among the affluent and well-educated, penile size is often equated to dominance, power and virility *(Burman, 2000)*.

To the average man, his penis is, consciously or unconsciously one of the most important things. At an early age he discovers it and immediately becomes fascinated by it. Although textbooks repeat that penile size doesn't matter, and that women aren't attracted to a man because of the length of his organ, the average male continues to think the same way. But it's important for a man to realise the true facts about the length of the penis. When it is in a non-erect condition, the male organ usually measures between 8.5cm (just over 3 in.) and 10.5cm (just over 4 in.) from tip to base. The average figure is about 9.5cm (or 3.75 in.), but this kind of precise measurement is really rather valueless because so many factors (for instance, cold weather or going swimming) can temporarily cause a shrinkage of two inches or more *(Delvin and Webber, 2005)*.

Of course, it's true that some men have big penises and some have smaller ones, just as some men have small feet and some have big feet, but the measurement is not an index of virility. There's one final point that's of

great importance and that virtually every man forgets: it doesn't matter how long or how short the penis is, because the vagina is so cunningly designed that it will accommodate itself to any length of penis *(Delvin & Webber, 2005)*.

Some men don't even realize what they have. For example, obese men develop a suprapubic fat pad that conceals the penis, making it look shorter. Pressing firmly on this fatty tissue reveals the true penile length.

Occasionally a perception of inadequate penile length is a manifestation of underlying feelings of inadequacy in general. In these instances, psychological counseling may prove helpful. There are no proven non-surgical methods of penile enlargement. Vacuum devices simply cause engorgement by drawing blood into the penis. (While these devices are very useful tools in the management of erectile dysfunction (ED), they do not progressively enlarge the penis). No natural pill has any ability whatsoever to enhance penile size. Even Viagra does nothing to permanently affect penile size. Topical testosterone cream used in childhood can increase penile size by accelerating the effects of puberty, but there is no proof that testosterone cream applied to the adult penis enhances penile size. Certain men suffering from urologic conditions may need plastic surgery on the penis; those with traumatic defects; those whose penises have retracted following a spinal cord injury; those born with a condition called epispadias and some men with Peyronie's Disease (PD) (scarring of the penile shaft resulting in severe angulation and occasionally shortening). For these men, surgical procedures are available to give the penis additional length and a more normal appearance. However, these procedures, even in the best of hands, often result in wound infection or

other healing complications. Sexual function may be impaired, and an artificial penile prosthesis may need to be inserted at the time of such surgery *(Gange, 2002)*.

Within the past 10 years, some surgeons have attempted purely cosmetic penile enlargement surgery on healthy men to enhance both length and girth of the penis. This surgery usually involves cutting the band of tissue that holds the penis up against the pubic bone (the suspensory ligament), and then injecting fat, harvested by liposuction, beneath the penile skin to add bulk. The surgery was considered experimental : Two studies (one in 1994, the other in 1996) published in the Journal of Urology reported significant complications resulting from this surgery.. i.e. wound infections and penile deformity, such as lumpiness and asymmetry. In fact, the surgery is still so controversial and yields such poor results that it is considered generally unacceptable by both the plastic surgery and urological communities *(Gange, 2002)*.

Micropenis is defined as diminished penile size by at least 2.5 standard deviations below the mean size, which is 9.5 cm (3.75 in.) *(Aaronson, 1994)* i.e when the penile length is less than 2 cm at birth.

Women are far more interested in a man's personality and looks than the size of his penis, but men nevertheless often become anxious about whether their penis is big enough. The urologists said that having a micropenis is a totally different condition from having penis anxiety *(Wylie and Eardley, 2007)*.

It has previously been demonstrated that the number of male patients seeking an andrological consultation for the problem of "short penis" is increasing and some patients lacking knowledge about normal penile size,

may resort to penile augmentation surgery. These operations must be done only when indicated. Also, studies reported elsewhere show that the condom manufacturing companies might produce unsuitable condoms due to lack of knowledge about penile size in a certain community. Moreover, we wanted also to clarify the relationship between stretched penile measurements in normal subjects and ED patients. According to these facts, we decided to perform the present study on two groups of Egyptian patients to clarify penile measurements in adult Egyptians, emphasizing on the significance of the results and comparing it with the normal figures about the penile size mentioned in well known studies in other parts of the world.

Because the stretched penis length is considered reliable enough to predict the erect penis length *(Chen et al., 2000)*, measuring the penis in erection was not done.

After reviewing the literature and up to our knowledge, it is obvious that, no previous studies were conducted to determine the penile size in adult Egyptians on a large scale.

AIM OF THE WORK :

The aim of this work was to determine the penile size in adult Egyptians and to clarify the relationship between stretched penile measurements in normal subjects and ED patients.

Chapter I

Anatomy of the penis

Compartments of the penis :

The penis is made up of three separate cylinders. The two paired cylinders called the corpora cavernosa make up the majority of the bulk and the erectile functioning of the penis. Both these cylinders actually communicate with each other for approximately three-quarters of their length through small holes between the cylinders. (This is why penile injections are applied into only one shaft or cylinder of the penis). As the penis approaches the body, these two cylinders split and are anchored to the pelvic bone by a tough membrane. Each of these cylinders is encased in a very tough thick sheath called the tunica albuginea. A tough thick membrane surrounds the penis so that when it is filled with blood under pressure it creates a firm structure that allows penetration.
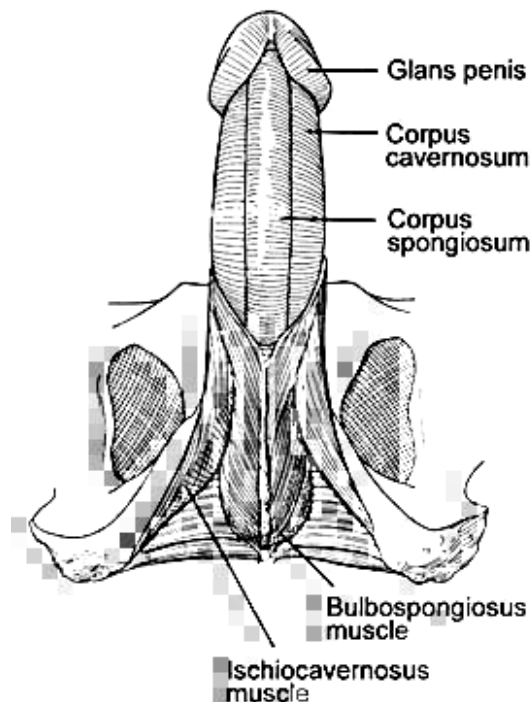

Fig. (1) : Frontal view of the penis (Steidle, 1998)

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The third cylinder of the penis is called the corpus spongiosum and it contains the urethra. The tissue around this erectile body is much thinner and the cylinder actually sits in a groove created by the other two cylinders *(Steidle, 1998)*.
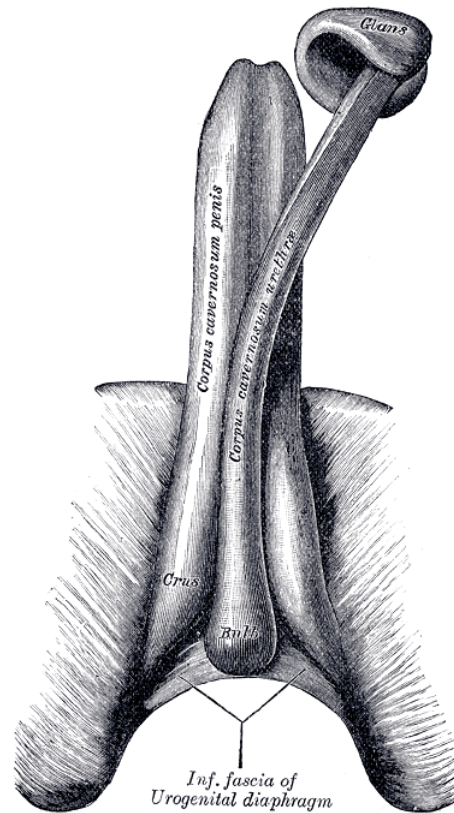

Fig. (2) : The constituent cavernous cylinders of the penis. The glans and anterior part of the corpus cavernosum urethrae are detached from the corpora cavernosa penis and turned to one side (Williams et al., 1989D).

The corpus spongiosum expands at its distal end to form the glans penis that becomes attached above to the distal round ends of the 2 corpora cavemosa. The proximal part of the glans projects as the corona. The root of the penis is formed by the proximal ends of the 3 corpora as follows: The corpus spongiosum expands at its proximal end to form the bulb of the penis through which the bulbar urethra passes while the 2 corpora

cavernosa diverge at their proximal ends to form the corresponding right and left crura of the penis that become firmly attached to the pubic bone *(Bancroft, 1989)*.

Coverings of the penis :

The penis is covered by 3 coverings as follows :
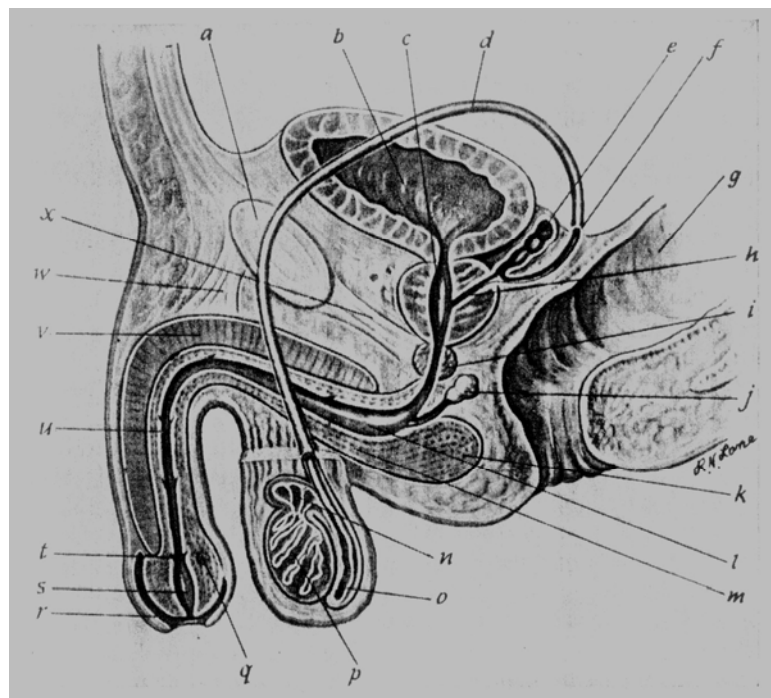
Skin of the penis :

Fig. (3) : Sagittal section of male genito-urinary tract. After Burke's adaptation of Pelouze (King et al., 1986)

a) Symphysis pubis
b) Bladder
c) Prostatic urethra
d) Vas deferens
e) Seminal vesicle
f) Ampulla of vas
g) Rectum
h) Ejaculatory duct
i) Compressor urethrae and membranous urethra
j) Cowper's gland
k) Bulb
l) Bulbous urethra
m) Corpus spongiosum
n) Globus major ⎫
o) Globus minor ⎬ of epididymis
p) Testis
q) Tyson's gland
r) Urinary meatus
s) Fossa navicularis
t) Lacuna magna
u) Penile urethra
v) Corpus cavernosum
w) Suspensory ligament
x) Triangular ligament