WHAT FACTORS AFFECT ON THE THICKNESS OF RECTUS ABDOMINIS MUSCLE AND ABDOMINAL SUBCUTANEOUS FAT TISSUE IN THE TRAM FLAP?

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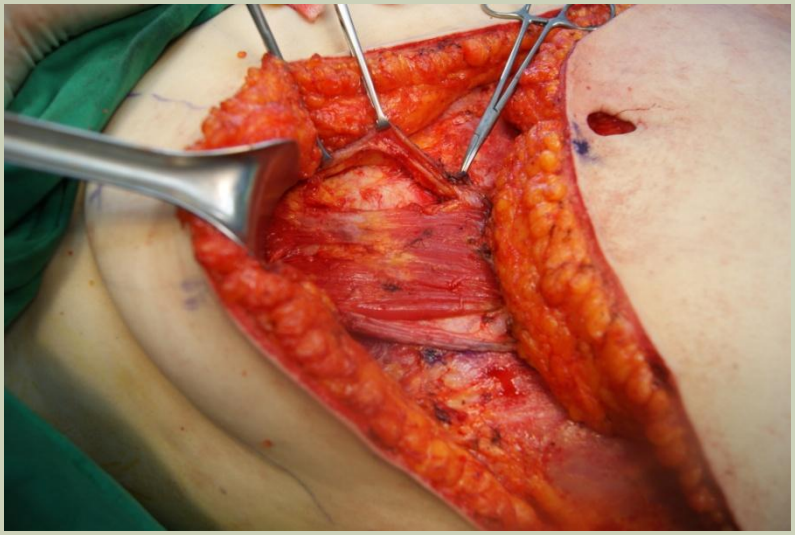
Nothing to disclosure

BACK GROUND

Rectus abdominis muscle flap is widely using method for reconstruction for large defect.



When the pedicled TRAM flap is considered for reconstruction,
an extremely thin muscle pedicle can cause circulation problems.
We have an experience of very thin rectus abdominis muscle during the TRAM flap.

OBJECTIVE OF THE STUDY

- For safe elevation of TRAM or VRAM
- For effective volumetric coverage of the defect

- To evaluate as follows

  The thickness of the abdominal subcutaneous fat

  The thickness of the Rectus Abdominis muscle

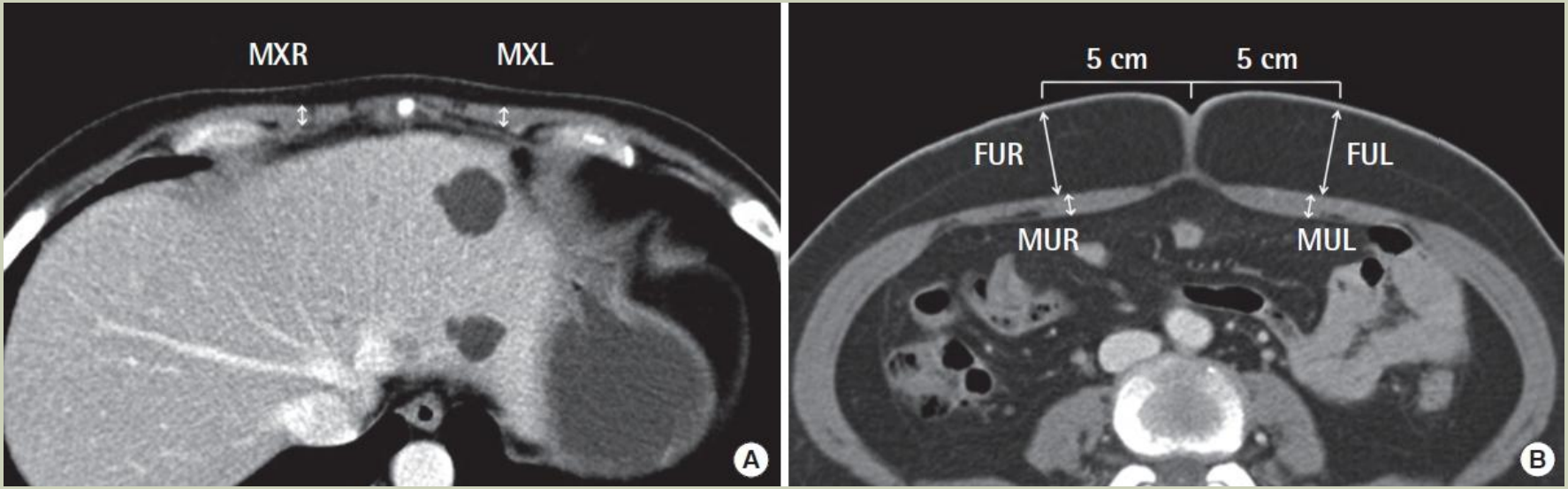
METHOD

- A total of 545 adult women
- Age range, 20 to 60 years
- Abdomino Pelvic CT :

  thickness of rectus abdominis muscle and abdominal subcutaneous fat
- Review of medical record:

  age, number of pregnancy, history of laparotomy, and BMI.

LEVEL OF MEASUREMENT



MXR: Thickness of right muscle at xiphoid level
MXL: Thickness of left muscle at xiphoid level
MUR: Thickness of right muscle at umbilicus level
MUL: Thickness of left muscle at umbilicus level
FUR: Thickness of subcutaneous fat tissue of the right side at umbilicus level
FUL: Thickness of subcutaneous fat tissue of the left side at umbilicus level

RESULT 1. GESTATIONAL HISTORY AND LAPAROTOMY

Factor	Mean ± standard deviation	Range (mm)
No. of gestations	2.70 ± 1.86	0-11
No. of pregnancies	1.55 ± 1.06	0-5
No. of artificial abortions	0.98 ± 1.31	0-10
No. of spontaneous abortions	0.14 ± 0.52	0-6
No. of normal deliveries	1.28 ± 1.12	0-5
No. of Cesarean sections	0.28 ± 0.65	0-4
No. of laparotomies	0.51 ± 0.77	0-4

RESULT 2. THICKNESS OF THE RECTUS MUSCLE AND THE SUBCUTANEOUS FAT

Thickness	Mean ± standard deviation	Range (mm)
MXR	9.58 ± 2.11	4.52-17.10
MXL	9.73 ± 2.06	4.47-16.23
MUR	10.26 ± 1.83	4.25-17.82
MUL	10.26 ± 1.85	4.30-19.32
FUR	24.31 ± 8.04	4.47-58.45
FUL	23.39 ± 7.92	3.93-54.29

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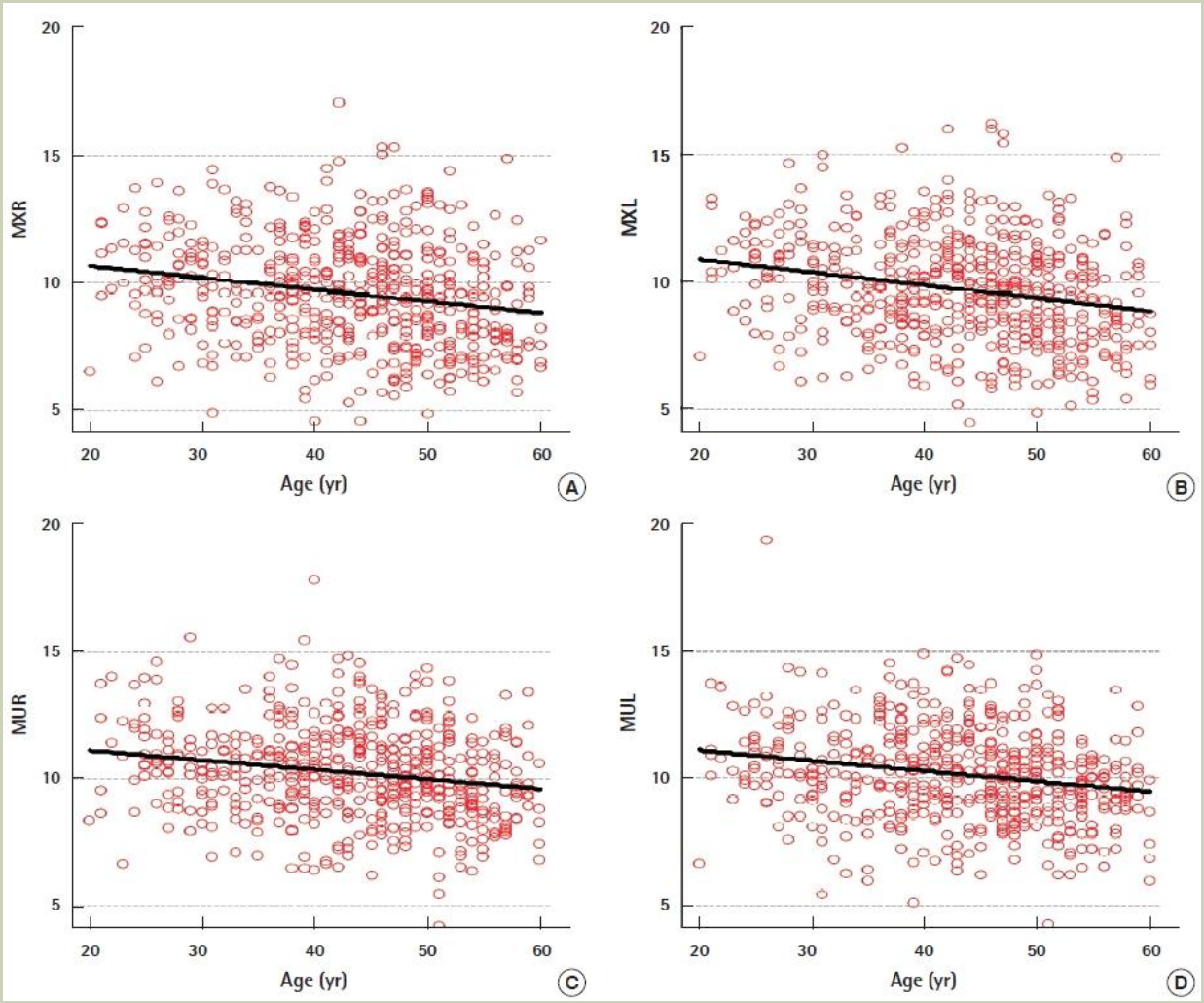
RESULT 3.PEARSON'S CORRELATION COEFFICIENT OF VARIOUS FACTORS

Factor	MXR	MXL	MUR	MUL	FUR	FUL
Age	-0.206[a)]	-0.233[a)]	-0.194[a)]	-0.207[a)]	0.052	0.048
G	-0.113[a)]	-0.124[a)]	-0.094[a)]	-0.126[a)]	0.037	0.036
P	-0.171[a)]	-0.169[a)]	-0.175[a)]	-0.210[a)]	0.055	0.065
AA	-0.035	-0.054	-0.006	-0.010	0.033	0.026
SA	-0.012	0.016	-0.015	-0.034	-0.028	-0.029
ND	-0.102[a)]	-0.105[a)]	-0.137[a)]	-0.151[a)]	0.017	0.013
CS	-0.072	-0.065	0.005	-0.019	0.045	0.058
L	-0.123[a)]	-0.094[a)]	-0.011	-0.019	0.046	0.062
BMI	0.041	0.072	0.233[a)]	0.234[a)]	0.691[a)]	0.692[a)]

MXR, thickness of right muscle at the xiphoid level;
MXL, thickness of left muscle at the xiphoid level;
MUR, thickness of right muscle at the umbilicus level;
MUL, thicknessof left muscle at the umbilicus level;
FUR, thickness of subcutaneous fat tissue on the right side at the umbilicus level;
FUL, thickness of subcutaneous fat tissue on the left side at the umbilicus level;
G, number of gestations;
P, number of pregnancies;
AA, number of artificial abortions;
SA, number of spontaneous abortions;
ND, number of normal deliveries;
CS, number of Cesarean sections;
L, number of laparotomies;
BMI, body mass index.
a)P<0.05.

RESULT 4. SCATTERED DIAGRAMS OF THE CORRELATION WITH AGE



Negative correlations between age and muscle thickness in all levels .

The thickness of fat tissue ; not influenced by the age.

CONCLUSION

- Rectus abdominis muscle became thinner with aging.

- Age, gestational history, and history of laparotomy influenced rectus abdominis muscle thickness but did not influence abdominal subcutaneous fat thickness. These results are clinically valuable for planning a rectus abdominis muscle flap and safe elevation of muscle flap.