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Correlation between body mass index and gonarthrosis: Cross-sectional study in an adult population

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Introduction and objective

Osteoarthritis is considered one of the main causes of locomotor disability, especially in women. Excess weight, defined by body mass index (BMI), is a significant risk factor for osteoarthritis, particularly for weight-bearing joints. This risk is increased by 15% for each one-unit increase in BMI.

This study was conducted to evaluate the correlation between BMI and knee osteoarthritis.

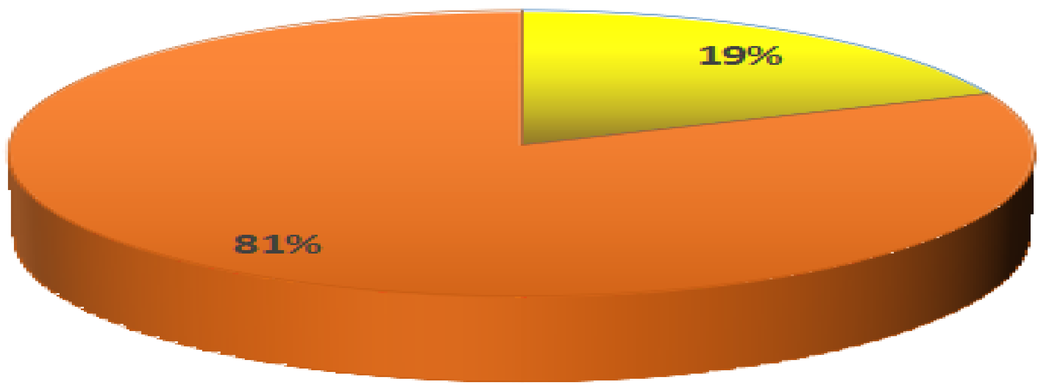
Methodology

A cross-sectional study was conducted on 100 patients with gonarthrosis. Epidemiological, clinical and biological data were collected using a pre-established data collection form. The functional impact was assessed using the Lequesne index and the Womac score. Knee radiographs were classified according to the Kellgren Lawrence criteria. Correlations were analyzed using the Spearman test.

Results

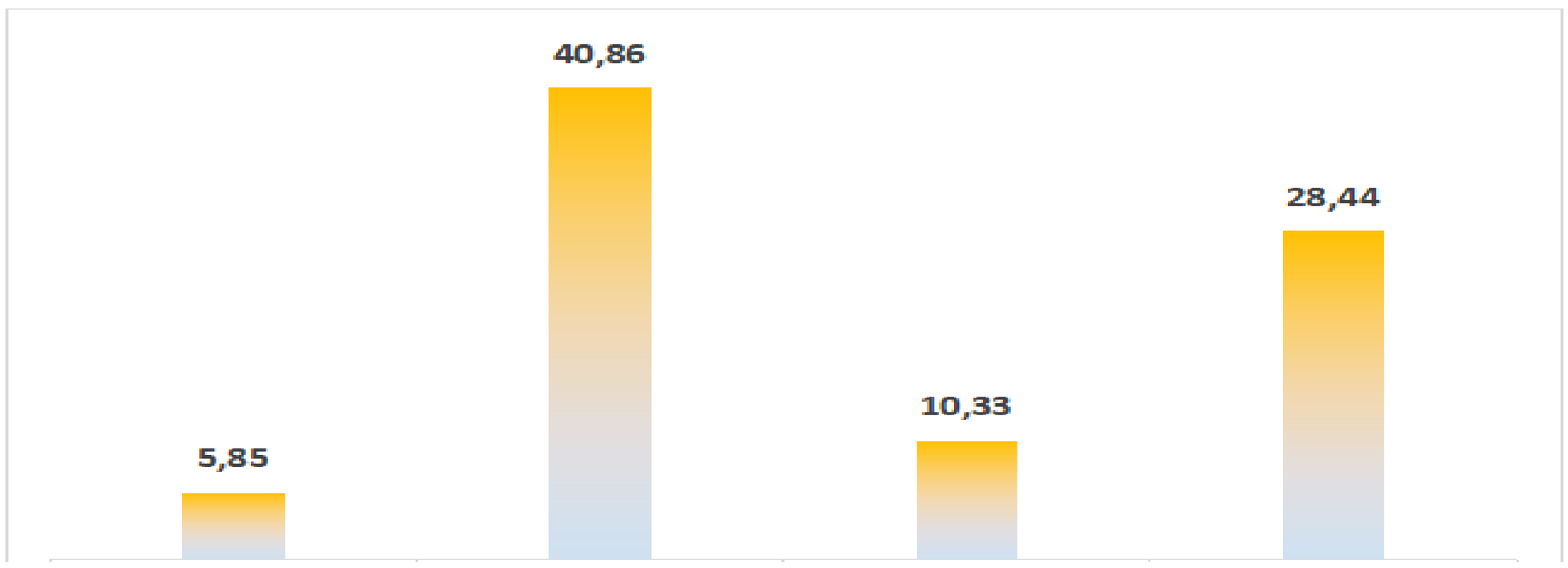
One hundred patients were included in our study.The mean age was 58.3 years ± 11.4[28–83] with a female predominance of 81%.

Cardiovascular risk factors were predominated by: obesity in 45%, hypertension in 32%, type 2 diabetes in 20% and dyslipidemia in 15% of the patients. Only 7% of patients practiced regular physical activity.



Graphic 1 : Distribution by Gender in Our Study.

The mean BMI was 28.44 ± 5.08[18.34–50.31]. The mean VAS pain was 5.85 ± 1.45 out of 10. The mean global WOMAC SCORE was 40.86 ± 16.72 and the Lequesne index was 10.33 ± 3.1. Radiologically, Kellgren and Lawrence stage 3 was predominant in 56% of patients.



Graphic 2 : Distribution of Mean Values within the Population .

Statistical analysis showed that BMI was positively and significantly correlated with knee osteoarthritis. The association was significantly stronger in the female population (men, RR: 2.304, CI 95%: 1.005–4.359; women, RR: 4.082, CI 95%: 1.874–4.682, p=0.018).

Discussion and Conclusion

In our study, an increased BMI was significantly associated with a higher risk of gonarthrosis, highlighting the importance of screening and weight loss interventions in the predisposed population.