IMPACT OF THE DIAGNOSTIC DELAY OF ACROMEGALY ON BONE HEALTH: DATA FROM A REAL LIFE AND LONG TERM FOLLOW-UP EXPERIENCE

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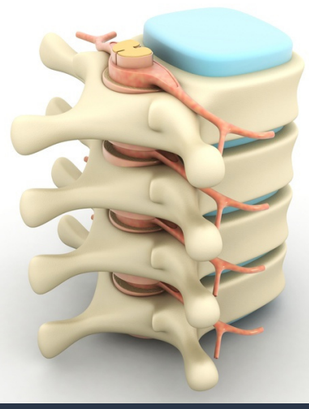
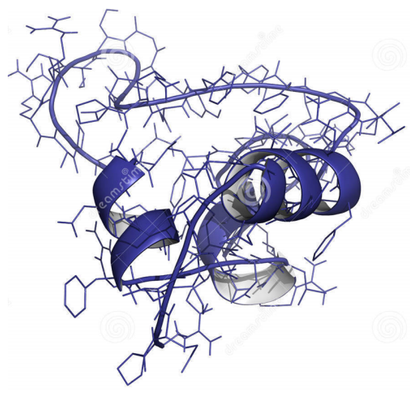
INTRODUCTION

Acromegaly is a chronic disease with systemic complications. Disease onset is insidious and consequently typically burdened by diagnostic delay. A longer diagnostic delay induces more frequently cardiovascular, respiratory, metabolic and musculoskeletal comorbidities. No data are available on the effect of diagnostic delay on skeletal fragility. We aimed to evaluate the effect of diagnostic delay on the frequency of incident and prevalent of vertebral fractures (i-VFs and p-VFs) in a large cohort of acromegaly patients.



PATIENTS AND METHODS

A longitudinal, retrospective and multicenter study was conducted on 172 acromegaly patients.



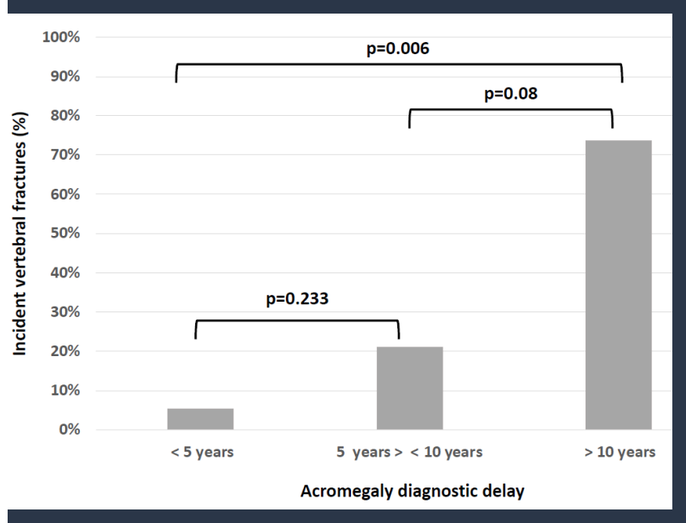
RESULTS

Median diagnostic delay and duration of follow-up were respectively 10 years (IQR: 6) and 10 years (IQR: 8). P-VFs were observed in 18.6% and i-VFs occurred in 34.3% of patients. The median estimated diagnostic delay was longer in patients with i-VFs (median: 11 years, IQR: 3), in comparison to those without i-VFs (median: 8 years, IQR: 7; p=0.02). Age at acromegaly diagnosis and at last follow-up were higher in patients with i-VFs, with respect to those without i-VFs. The age at acromegaly diagnosis positively correlated with the diagnostic delay (p<0.001, r=0.216). A longer history of active acromegaly was associated with a high frequency of i-VFs (p=0.03). The logistic regression confirmed that patients with a diagnostic delay > 10 years had 1.5-folds increased risk of developing i-VFs (OR: 1.5; 95%CI: 1.1-2; p=0.017).

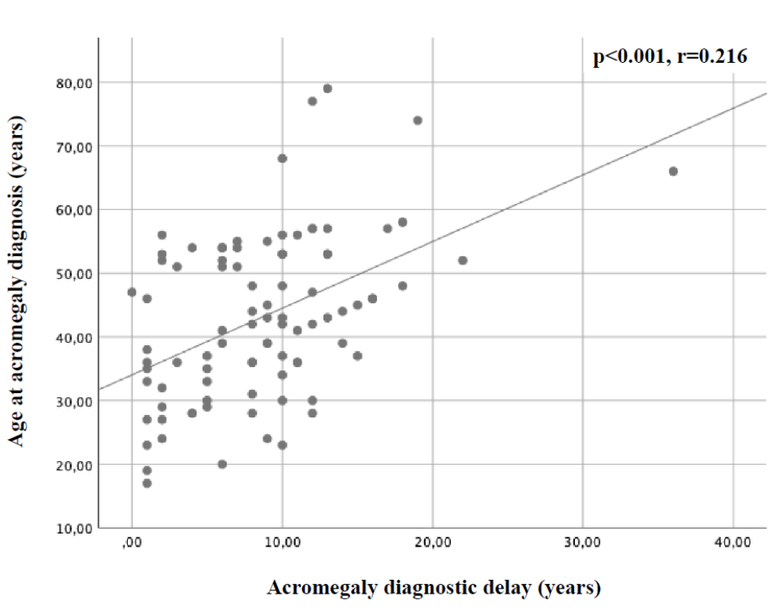
CONCLUSION

Our data showed that:

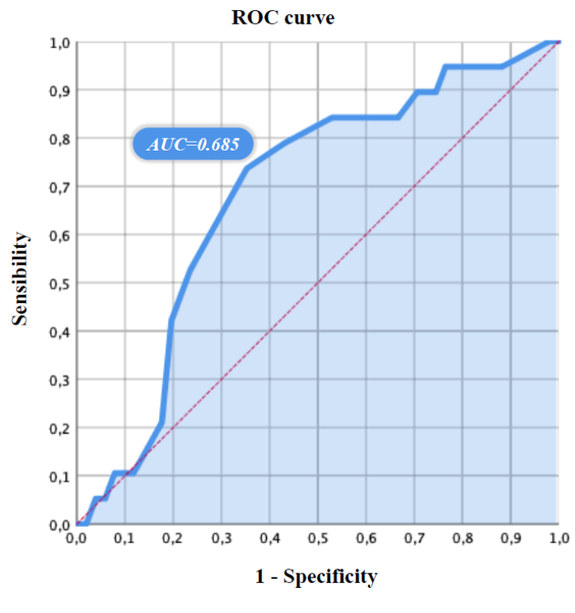
- The diagnostic delay in acromegaly has a significant impact on VF risk
- The clinical relevance of an early acromegaly diagnosis.



HISTOGRAM SHOWING THE PERCENTAGE OF INCIDENT VERTEBRAL FRACTURES ACCORDING TO DIAGNOSTIC DELAY. UNIVARIATE ANALYSIS



SCATTER PLOT CORRELATING AGE AT ACROMEGALY DIAGNOSIS AND DIAGNOSTIC DELAY (P < 0.001, R = 0.216)



ROC CURVE. THE AREA UNDER THE ROC CURVE DEVELOPED FOR THE MONTH OF DIAGNOSTIC DELAY IN PATIENTS WHO DEVELOPED INCIDENT VERTEBRAL FRACTURES WAS 0.68 (95% CI 0.5–0.82; P = 0.04)