



ANA availability in suspected autoimmune hepatitis: Effects on scoring and liver biopsy utilisation

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INTRODUCTION & AIM

Autoimmune hepatitis (AIH) can be challenging to diagnose. The simplified International Autoimmune Hepatitis Group (IAIHG) criteria is commonly used to support diagnosis. However, this score may be revised once antinuclear antibody (ANA) results are available. This study evaluated the impact of the timing of ANA results on AIH scoring, provisional diagnoses, and liver biopsy utilisation in suspected AIH.

METHODS

A retrospective cohort study of patients with undifferentiated hepatitis was identified between January 2020 and January 2025 using ICD-10 coding and laboratory records from a tertiary health service. Data collected included demographics, ANA status/titre, liver biopsy status, provisional and final diagnoses, and simplified AIH scores before and after ANA availability. Diagnoses were classified as “unlikely”, “probable”, or “definite” AIH. Secondary outcomes included the utilisation of liver biopsy and the initiation of immunosuppression.

RESULTS

267 patients were initially identified through medical records, with 28 patients meeting inclusion criteria across the 5-year period. ANA positivity was identified in 36% of the 28 patients. Prior to ANA availability, most patients were classified as “unlikely AIH” using simplified IAIHG criteria. Availability of ANA results significantly increased simplified AIH scores (Wilcoxon signed-rank $p=0.0009$), resulting in reclassification of several patients into probable or definite AIH categories (see Figure 1).

Liver biopsy was performed in 7 patients (25%). Significantly, liver biopsy patients had lower albumin levels (33 vs 37 g/L, $p=0.031$) and were more likely to commence immunosuppressive therapy (43% vs 5%, $p=0.038$). AIH accounted for 43% of biopsy-confirmed diagnoses. Patients commenced on immunosuppression had significantly higher ALT, AST, bilirubin, and IgG levels than those not receiving therapy (all $p<0.05$).

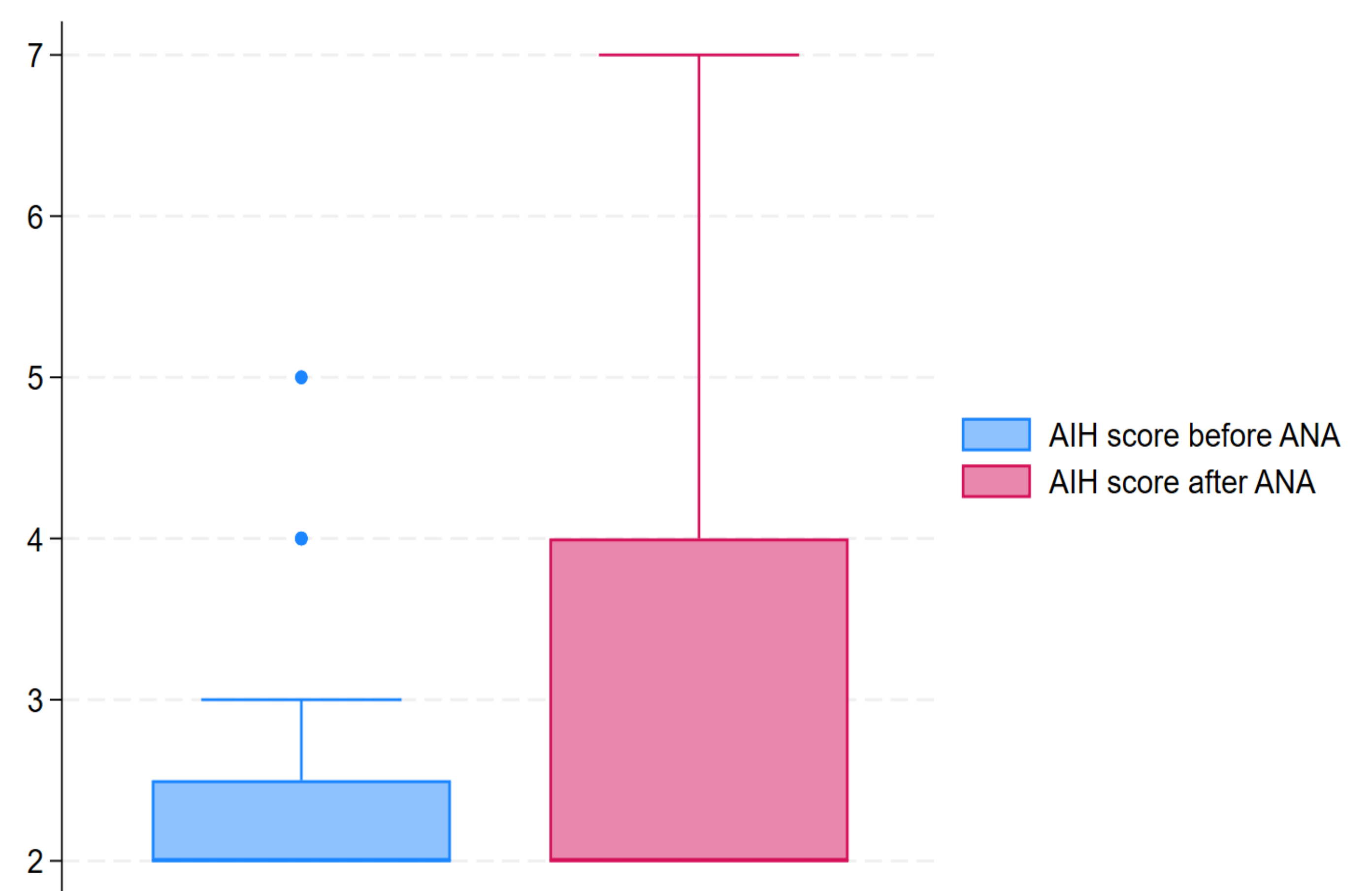


Figure 1. Simplified AIH scores before and after ANA availability

Boxplot comparing simplified autoimmune hepatitis (AIH) scores before and after antinuclear antibody (ANA) results became available. AIH scores were generally higher after ANA availability, with greater variation and more patients reaching scores consistent with probable or definite AIH.

Immunosuppression initiation was strongly associated with a final diagnosis of AIH ($p<0.001$), liver biopsy utilisation (75% vs 17%, $p=0.038$), and biopsy findings compatible with AIH ($p=0.011$).

CONCLUSION

ANA testing significantly influences simplified IAIHG scoring, provisional AIH classification, and liver biopsy utilisation in suspected AIH. Earlier ANA availability may improve diagnostic efficiency and facilitate the timely initiation of immunosuppressive therapy.