Pancreatic family history doesn't predict disease progression, but connotes alcohol consumption in adolescents and young adults with acute pancreatitis:

Analysis of an international cohort of 2,335 patients.

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INTRODUCTION

In pediatric acute pancreatitis (AP) a family history of pancreatic diseases is **prognostic for earlier onset of** recurrent AP (**ARP**) and chronic pancreatitis (**CP**). Adult CP guidelines also strongly recommend assessment (100% agreement), however, evidence is scarce for this recommendation – we failed to identify any clinical studies examining the connection between ARP, CP and pancreatic family history. **Age-specific reasons of familial aggregation are also unclear**.

We aimed to examine the prognostic role of pancreatic family history for ARP/CP and observe possible underlying mechanisms.

METHODS

We conducted a secondary analysis of the **Hungarian Pancreatic Study Group's (HPSG)** multicenter, international, prospective registry of **AP patients, both children and adults**. We compared those with positive and those with a negative family history of pancreatic diseases (AP, ARP, CP, autoimmune AP, pancreatic cancer), in different age groups, and analyzed trends of accompanying factors. Chi-square and Fisher exact tests were used.

RESULTS

Higher rate of **ARP** was noted in childhood, even more so in the positive than the negative family history groups, but without statistical significance. Overall, a significantly higher rate of ARP or CP was found in the positive family history group (33.7% vs 25.9%, p=0.018) (Fig. 1a).

We found an **excess of idiopathic etiology in children with a positive family history** (75% 0-5 years, 60% 6-11 years) which decreased over time to meet the negative group (20-35%). Statistically significant difference was found overall (32.1% vs 24.6% in the positive vs negative groups, respectively, p=0.020) (Fig. 1b).

Current **alcohol consumption and/or smoking was significantly more common** in the positive family history group in ages: **12-17 years** (62.5% vs 15.8%, p=0.013), **18-29 years** (90.9% vs 58.1%, p=0.049) but not overall (58.2% vs 53.4%, p=0.204) (Fig. 1c).

Significant difference regarding the presence of **DM and/or hyperlipidemia** at the time of the index case was observed only in patients 66 years old or above (43.5% vs 29.4% respectively, p=0.044) but not overall (25.5% vs 25.7%, p=0.950) (Fig. 1d).

DISCUSSION

While it is likely, that with higher patient numbers, the marked difference in ARP/CP in the pediatric subgroups would be retained, further increasing adult subgroups – while it could lead to significant results – would likely still be clinically irrelevant, and not suitable for ARP/CP prediction. In the positive group, we found an excess of idiopathic AP (likely reflecting genetic risk factors) in the pediatric age groups: peaking at 75% at 0-5 years then steadily decreasing to meet the negative group in adulthood. Next to the decline in idiopathic AP, we found a markedly higher rate of alcohol consumption / smoking among 12-29 year olds with positive family history. The most likely explanation is the well-documented association between parental and offspring alcohol consumption.

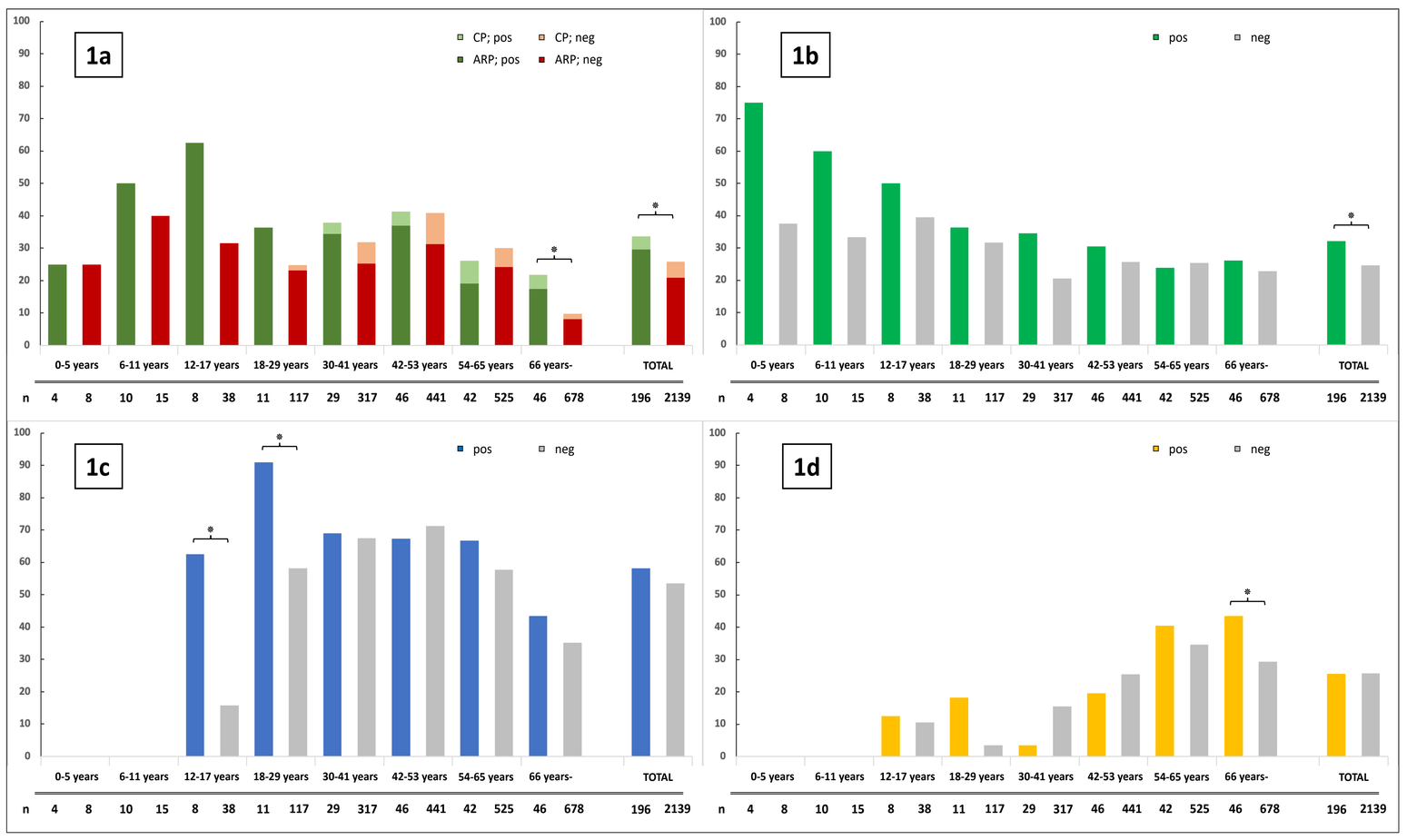

Figure 1: 1a: rate of acute recurrent pancreatitis (ARP) and chronic pancreatitis (CP) in different age groups of acute pancreatitis (AP) patients with positive (pos) and negative (neg) pancreatic family history; 1b: rate of idiopathic etiology at time of the index AP registry enrolment; 1c: rate of alcohol consumption and/or smoking; 1d: rate of diabetes and/or hyperlipidemia. *: statistically significant difference n: number of participants with available data on variables.

IMPLICATIONS

- **Positive family history most likely signifies genetic background in early childhood** (reassuring the literature)
- **During adolescence and early adulthood, alcohol consumption and smoking emerges – clinicians should be aware and turn to intervention in such cases.**
- **Contrary to current viewpoints positive pancreatic family history is not a prognostic factor for ARP and CP in adults, so it should not be used as such.**