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Prevalence of Gene Mutations in Dental Agenesis and Colorectal Cancer

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Objective

To describe the available evidence about the prevalence of KRAS, PIK3CA, BRAF and AXIN2 mutations in colorectal cancer individuals and its possible association with dental agenesis.

Methods

Study design. a systematic review was conducted according to Preferred Reporting Items for Systematic Reviews and Meta -Analyses statement (PRISMA).

Selection criteria. Observational studies (english or spanish). prevalence of KRAS, PIK3CA, BRAF and AXIN2 mutation/ polymorphism in primary or metastatic colorectal cancer.
Interval of seven years.

Literature searches.

PubMed Embase Cochrane Library

Terms: "Genes", "RAS", "Kras", "PIK3CA", "BRAF", "AXIN2"; in combination with "Prevalence", "Mutation" or "Polymorphism" and "Colorectal Neoplasms" or "Colorectal Cancer". In addition, "dental agenesis".

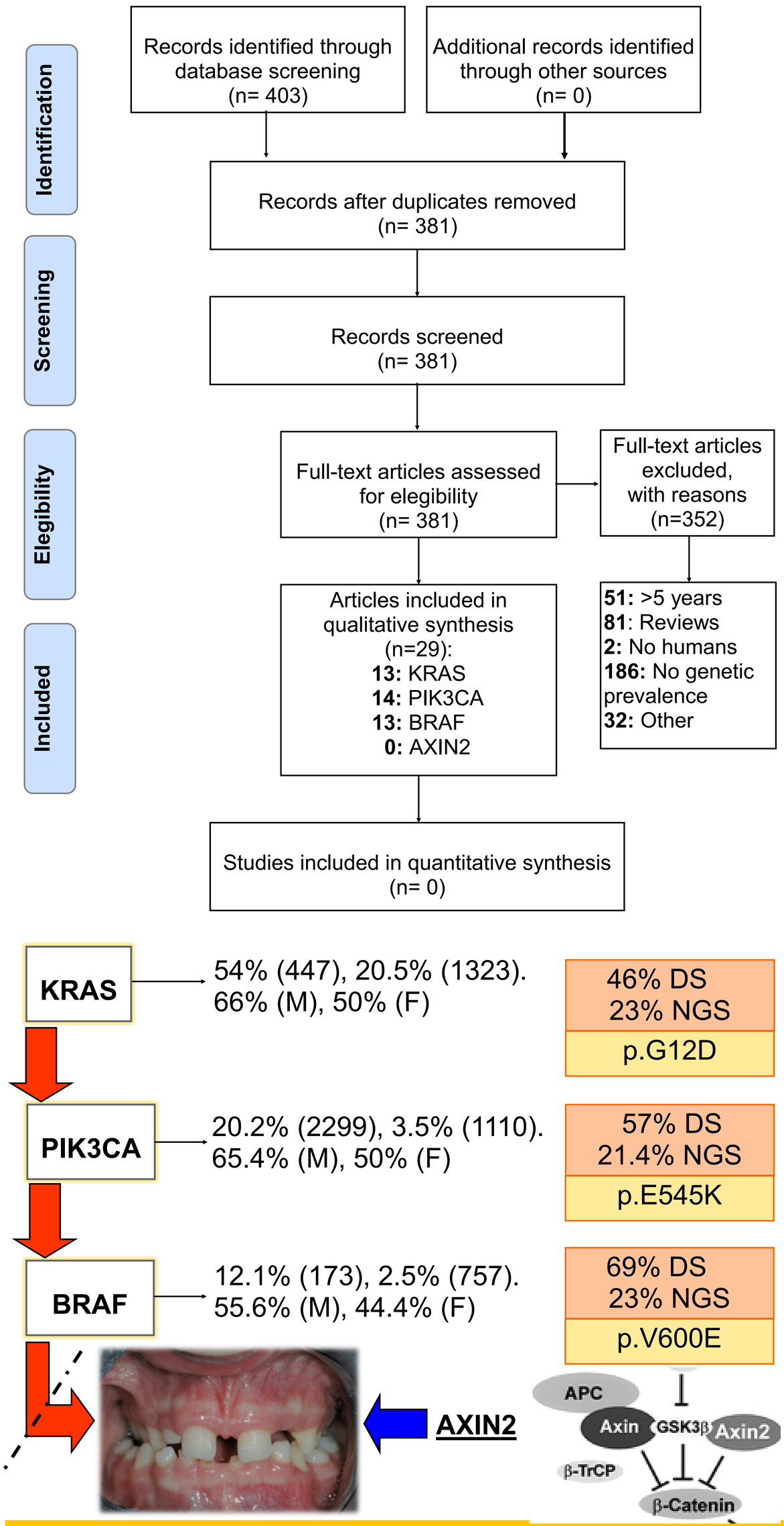
Study selection. EndNote® (Version X8, Thomson Reuters) .

Methodological quality assessment. "*Aroot for the critical appraisal of epidemiological cross-sectional studies* " Berra S. *et al.*, 2008.

- ≥ 108 + Good internal validity → High MQ
- 81—107 + Regular internal validity → Median MQ

Data extraction. author, publication year, geographic región where the study was performed, sample size, general prevalence of the mutation, mutation prevalence by sex, ami-noacids changes and sequencing techniques.

Results



Conclusion

KRAS mutations were the most prevalent, although, there is a lacking evidence on relation of dental agenesis and the prevalence of colorectal cancer mutations.

References

Henson BS, et al., Collection, storage, and processing of saliva samples for down-stream molecular applications. In Oral Biology. 2010:21-30.
Jessie K, et al,. Protein precipitation method for salivary proteins and rehydration