Background and aim

With the advent of linear probes, EUS evolved from a mere imaging technique to a powerful mini-invasive tool by which many difficult areas can be reached for getting a tissue sampling. The first cytological FNA needles have subsequently been flanked by different types of histological FNB needles, which allowed to get more tissue, in order to increase the diagnostic accuracy of the aspirates, to quantify the mitotic rate of the tumors, to do ancillary staining or genetic assessment, to decrease the number of the needle passes. Aim of this study was to assess if, when and how FNB has replaced FNA in the daily practice in a north Italian secondary center (Mantua, Lombardy).

Material and methods

We retrospectively analyzed our EUS procedures with tissue acquisition from 2011, when also the FNB needles started to be used in our unit, to 2020; we assessed the number of the exams effected with the two types of needles and their indication.

Results

During this 10-year period FNB was gradually introduced in our EUS daily practice and the number of procedures using these needles, as compared to the overall EUS-guided tissue acquisition, accounted for 9-23% in 2011-2017 and for 59-70% since 2018. The two types of needles have peculiar pros and cons that probably guided case by case the endoscopist's choice: FNA needles are generally thinner (25-22G), theoretically allowing a higher flexibility and a less traumatic effect on the transversed tissues; they were mainly used when the probe was particularly curved in the duodenum, when a vessel had to be passed through or when the patient had any alteration of the coagulation pattern. FNB needles are usually thicker (22-20-19G) and for their capacity to obtain histological cores with few passes they became the preferred tools either by the endoscopists or by the pathologists; moreover, providing additional diagnostic and prognostic data, they were mainly used in case of NET, GIST, lymphoma, autoimmune pancreatitis. Regarding the diagnostic adequacy of the aspirates, the performance of FNA and FNB needles did not differ (87.5% vs 89.3% respectively).

Conclusions

In the last years FNB has gradually replaced FNA; the quantity and quality of the acquired tissue allowing immunohistochemical, grading and genetic assessment, the reduction of the procedure time and their safety profile, made them the most used needles in our daily practice, regardless of their slightly higher price. Nevertheless, FNA still keeps a role in particular situations, where a thin and flexible needle is required.