International Pathology Day 2022

The Royal College of Pathologists
Pathology: the science behind the cure

Pathology: at the heart of your health
Celebrating our Diamond Jubilee

#IPD2022

Prognostic Histopathological Factors in Colorectal Cancer: Reproducible from hematoxylin and eosin sections into clinical Practice.

Lamia Sabry AboElnasr*, Asmaa Gaber Abdou

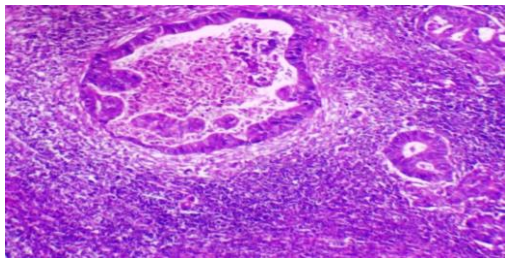
Pathology Department, Faculty of Medicine, Menoufia University, Egypt

Background

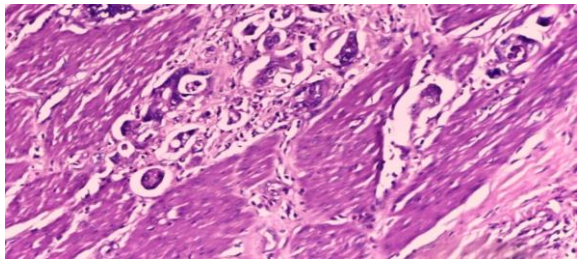
- Despite being underreported, peritumoral immune reaction is an important feature of processes governing tumour-host interaction.
- Tumour budding (TB) is defined as single cells or clusters of up to four cells at the invasive margin. TB is mirroring the invasive behaviour of the tumour.
- In the same context, the tumour behaviour may be both affected by and reflected in stromal features including stromal percentage and configuration.
- This study aimed to assess peritumoral immune reaction, TB, stroma percent and configuration and test their prognostic impact in colorectal cancer (CRC).

Methodology

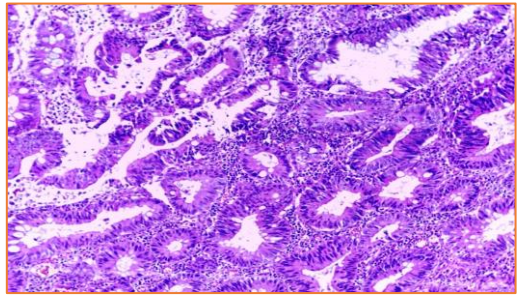
- A cohort of 103 CRC surgical specimens was retrospectively evaluated using hematoxylin and eosin sections.
- Peritumoral immune reaction was assessed according to Jass criteria. Cases were reported in 2 categories: Cap- like reaction or No cap-like reaction.
- The TB /HPF was assessed at the invasive m,rgin, and classified as high-grade budding (≥ 10 buds) and low-grade budding (< 10 buds).
- Tumour-stroma ratio (TSR) was assessed in a HPF with tumour cells present at all borders, and scored as low (> 50% stroma) and TSR (≤ 50% stroma/HPF).
- Peritumoral stroma was noticed at the invasive front and reported as: mature (mature collagen fibres), intermediate (keloid-like fibers and mature fibres), and immature (keloid-like fibres).



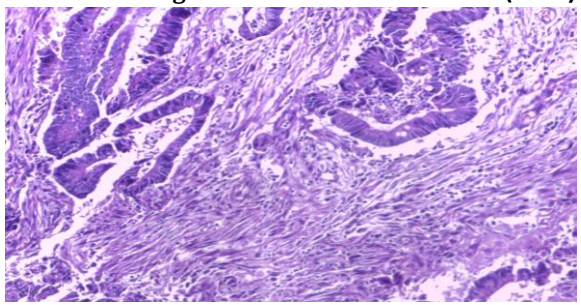
Cap-like peritumoral immune reaction (X200)



Tumor budding at the invasive tumor front (X400)



High tumour-stroma ratio (X200)



Mature peritumoral stroma (X200)

Results

- Cap-like peritumoral immune reaction and mature stroma were associated with better overall survival (OS) (p =0.007) and (p =0.003), and both were linked to each other (p =0.01).
- There was a significant correlation between low TSR, high TB score and poor OS (p <0.0001) and (p < 0.0001).
- High TB score was related to absent peritumoral immune reaction, immature stroma and low TSR (p <0.0001), (p =0.007) and (p =0.01).
- Multivariate regression analysis revealed that TSR and TB were independent prognostic parameters in CRC.

Conclusion

TB, TSR, Stroma configuration and peritumoral immune reaction are strongly recommended to be reported in CRC.