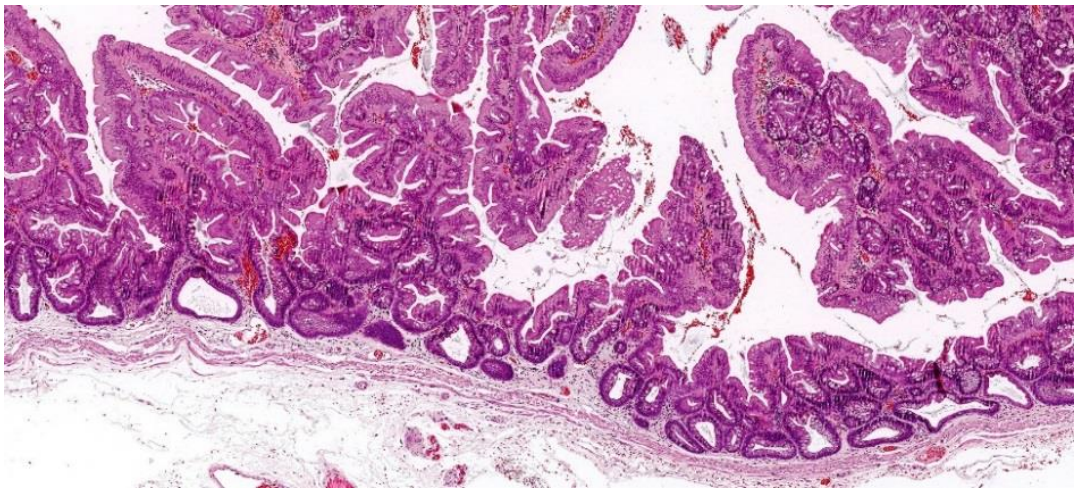
Envoi SPECIALIST PATHOLOGISTS *inside insights*

Update No.3a – 2016 *Dr Mark Bettington*

Traditional serrated adenoma

The traditional serrated adenoma (TSA) is a rare polyp of the serrated neoplasia pathway (0.9% of colorectal polyps). Similar to the sessile serrated adenoma (SSA), they progress through a phase of overt cytological dysplasia before the development of malignancy. Two molecular subtypes are recognised, namely *BRAF* and *KRAS* mutated. *BRAF* mutated TSAs arise in SSAs or hyperplastic polyps whereas *KRAS* mutated TSAs have no known precursor. Both give rise to aggressive molecular subtypes of colorectal carcinoma.



Definition: A neoplastic polyp characterised by eosinophilic cells, ectopic crypt formations and slit-like epithelial serrations.

Risk factors: Older age

Clinicopathological features: Mean age 62, predominantly distal, mean size 10.6mm, distal polyps are more likely to be protuberant, whereas proximal polyps are often flat

Molecular biology: *BRAF* mutation (67%), *KRAS* mutation (22%)

Risk of malignant progression: High

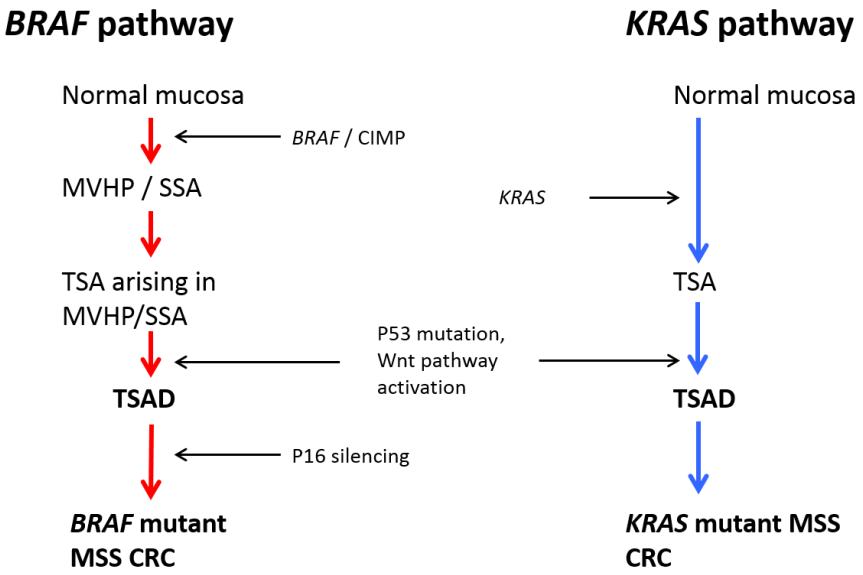
Risk of metachronous carcinoma: High; odds ratio 4.84; risk of carcinoma at ten years 4.5%

Surveillance guidelines: Surveillance colonoscopy is recommended at 3 years.

Note: At present there are no guideline to direct surveillance in TSAs with superimposed cytological dysplasia. In our experience these are very aggressive polyps and require complete removal with close surveillance.

Cancer outcome: TSAs can give rise to two major molecular subtypes of carcinoma:

1. *BRAF* mutated, microsatellite stable carcinoma – this is the most aggressive molecular subtype of colorectal adenocarcinoma
2. *KRAS* mutated, microsatellite stable carcinoma – this is also an aggressive subtype of colorectal adenocarcinoma



Further reading:

Bettington et al; A clinicopathological and molecular analysis of 200 traditional serrated adenomas. Modern Pathology 2015;48:414-427

Rune et al; Increased risk of colorectal cancer development among patients with serrated polyps. Gastroenterology 2015, epub ahead of print.