Peutz-Jeghers syndrome

Key facts

- Peutz-Jeghers syndrome (PJS) is an autosomal dominant inherited disorder, resulting in characteristic gastrointestinal polyps and mucocutaneous pigmentation.
- This is a rare condition, affecting approximately 1 in 50,000 individuals.
- Most polyps can be managed endoscopically.
- Patients with PJS are at increased risk of a range of cancers.

Clinical features

- 95% of people with PJS have characteristic freckling of the lips and perioral region, which develops during childhood and usually fades in adulthood.
- Freckling can also occur on the fingers, toes, anus and vulva.
- Small bowel obstruction in childhood, due to a polyp causing intussusception, is the most common presentation.
- Occult bleeding from polyps can cause anaemia.
- There is a high risk of cancer - approximately 50% by the age of 50. The most common sites are the breasts, pancreas, gastrointestinal tract and ovaries.
- Sex cord tumours and other, sometimes hormone-secreting, gonadal tumours are also seen, often at a young age.

Diagnosis

- Not all affected individuals are easily recognisable as having the disorder – some may not have conspicuous pigmentation, or it may have faded with age.
- For individuals identified as being at risk because they are from a family known to have PJS, predictive genetic testing is offered in infancy. Polyps that cause symptoms before clinical surveillance usually starts can then be identified and managed appropriately.
- If genetic testing is not available, individuals at risk of PJS (first degree relatives of an affected individual) should undergo OGD, video-capsule endoscopy and colonoscopy at 8 years of age.

Genetic basis

- A causative variant in the *STK11* gene is identified in the majority of individuals with PJS.
- The *STK11* gene codes for a serine/threonine kinase that is part of the mTOR pathway.

Clinical management

- The aims of management are to remove polyps electively before they cause obstruction or anaemia, and to screen for luminal GI and breast cancers.
- OGD and colonoscopy should be carried out at the age of eight (or earlier if symptomatic). If polyps are identified, they should be removed; this should be repeated every three years. If no polyps are identified, this should be repeated at the age of 18.

- The small bowel should be investigated every three years from the age of eight, using video capsule endoscopy or MR enterography.
- Significant small bowel polyps (those over 1.5-2cm in size, or associated with abdominal pain or anaemia) should be removed using double balloon enteroscopy, or laparotomy and intra-operative enteroscopy.
- Women should be referred to their local breast screening unit for annual mammography from between the ages of 30 and 60 years (as specified in NICE guidelines).
- Women should be up to date with cervical cancer screening, as they are at increased risk of adenocarcinoma of the cervix, which can be picked up on cytological screening.
- There is currently no evidence to support screening of other organs, but a high index of suspicion should be maintained if any symptoms develop.
- Pre-implantation genetic diagnosis is available for patients with PJS if they wish to have a child without the condition.

Direction to further reading, guidelines and patient groups

- Peutz–Jeghers syndrome: a systematic review and recommendations for management. Beggs AD, Latchford AR, Vasen HFA, et al. Gut 2010;59:975-986.
- Management of Peutz-Jeghers Syndrome in Children and Adolescents: A Position Paper From the ESPGHAN Polyposis Working Group. 2019;68(3):442–52.
- Guidelines for the management of hereditary colorectal cancer from the British Society of Gastroenterology (BSG)/Association of Coloproctology of Great Britain and Ireland (ACPGBI)/United Kingdom Cancer Genetics Group (UKCGG). Monahan KJ, Bradshaw N, Dolwani S Hereditary CRC guidelines eDelphi consensus group, et al. Gut 2020;69:411-444.
- Patient support group
- St Mark's Hospital Polyposis Registry

This information is intended for educational use and was current in June 2019. For clinical management, it is recommended that local guidelines and protocols are used.

Produced in collaboration The Polyposis Registry, St Mark's Hospital.