Individualized surveillance for Serrated Polyposis Syndrome: Results from a prospective 5-year international cohort study


*Shared last author
No disclosures
Background – Serrated Polyposis Syndrome (SPS)

Numerous serrated polyps (SPs) throughout colon

High prevalence: up to 1:111\(^{1-2}\)
High CRC risk (15-70\%)\(^{3-8}\)

5-year cumulative CRC incidence 0-7\%\(^{3-8}\)

1-2: Ijspeert, Gut 2016; Rivero-Sanchez, Endoscopy 2017;
3-8: Hyman, Endoscopy 2006; Rubio, Endoscopy 2006; Boparai, Gut 2010; Carballal, Gut 2016; Ijspeert, Gut 2017; Parry, NZ Med J 2017; Rodriguez-Alcalde, Endoscopy 2018; MacPhail, GIE 2018
Background – Surveillance

Close endoscopic surveillance warranted

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Recommendation surveillance interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Multi-society taskforce on CRC (US-MSTF)¹</td>
<td>1 year</td>
</tr>
<tr>
<td>National Dutch guideline²</td>
<td>1-2 years</td>
</tr>
<tr>
<td>National Spanish guideline³</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Great Brittain expert consensus⁴</td>
<td>1-2 years</td>
</tr>
</tbody>
</table>

Clinicians stay on safe side: median interval 1.1-1.3 years⁵-⁷

→ Substantial colonoscopy burden

Background – Study aim

Aim:

To develop and assess an easy-to-use personalized surveillance protocol that reduces colonoscopy burden without increasing CRC risk
Methods

**Study design:** Prospective multi-center cohort study

<table>
<thead>
<tr>
<th>Inclusion</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPS (type I and/or III)</td>
<td>Inflammatory bowel disease</td>
</tr>
<tr>
<td>≥18 years</td>
<td>Subtotal colectomy / proctocolectomy</td>
</tr>
<tr>
<td></td>
<td>CRC-related germline mutation</td>
</tr>
</tbody>
</table>
Methods – Personalized surveillance protocol

Phase 1: Clearing phase

Clear colon of all polyps:
- ≥5mm
- <5mm with aspect of adenoma, sessile serrated lesion (SSL) or traditional serrated adenoma (TSA)
Methods – Personalized surveillance protocol

Phase 2: Surveillance phase

≥1 advanced polyp* / ≥5 non-advanced relevant polyps**

1 year

No advanced polyps* & <5 non-advanced relevant polyps**

2 years

* Advanced polyp: advanced adenoma / SP ≥10mm, with dysplasia or TSA
** Non-advanced relevant polyp: non-advanced adenoma / SSL of any size / hyperplastic polyp (HP) ≥5mm
Methods – Outcome measures

Primary outcome measure
5 year cumulative CRC & AN incidence
Results

2013 – 2018:
- 554 potentially eligible SPS patients
- 6 Dutch & 4 Spanish hospitals

Hospital Clinic de Barcelona
Hospital Bellvitge
Hospital del Mar
Biodonostia
Amsterdam UMC
Erasmus MC
Netherlands Cancer Institute
Radboud MC
St. Antonius hospital
UMC Groningen
Results - Study flowchart

SPS patients assessed for eligibility (554)

Excluded (283)
- No surveillance before study closure (85)
- (Procto)colectomy (58)
- Did not visit hospital during study (31)
- Other (109)

Included SPS patients (271)

Follow-up Jan 2013 – Apr 2018
Results – CRC during surveillance

CRC during surveillance in 2 patients

5-year cumulative CRC incidence:
1.3% (95%CI 0 - 3.2%)
Results – AN during surveillance

AN during surveillance in 98 patients

5-year cumulative AN incidence: 44% (95% CI 37-51%)
Results – Riskfactors for AN

Strong association:

**WHO I**: 53% (95%CI 39-65%)

**WHO I & III**: 59% (95%CI 40-72%)

**WHO III**: 26% (95%CI 16-35%)
Results – 1 vs. 2 year surveillance interval

Frequency of 1 year & 2 year surveillance interval:

- 1st Surveillance (n=271): 52% (One year), 48% (Two years)
- 2nd Surveillance (n=173): 63% (One year), 37% (Two years)
- 3rd Surveillance (n=66): 71% (One year), 29% (Two years)
Results – 1 vs. 2 year surveillance interval

Incidence of advanced neoplasia after 1 and 2 year surveillance interval

Surveillance protocol

1 year

AN: 25%

OR = 0.57
(95% CI 0.31-1.07)

2 years

AN: 16%
Conclusion

Using a personalized surveillance protocol:

1. Low CRC incidence

2. 2-year interval is safe for majority of SPS patients

3. Low risk of advanced neoplasia in WHO III
Further improvement of SPS surveillance?
- WHO type 3
- Patients now appointed 2 year interval
Acknowledgments