The Paris classification of colonic lesions

Training to improve the interobserver agreement among international experts

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Introduction

• Japanese classification morphology of superficial lesions of the gastrointestinal tract
• 2002 international Endoscopic Classification Review Group: the Paris Classification of Neoplastic Lesions in the digestive tract
• Adequate description of polyp morphology and size of importance
  – Helps to determine appropriate method of treatment
  – Has a predictive value for submucosal invasion
  – Facilitates comparative research in colonoscopy practice

• However, thus far the validity and reproducibility of the classification has not been assessed

....until now!
Aim & Methods

- To evaluate the interobserver agreement of the Paris classification and size of colorectal neoplasms among 7 western expert endoscopists
- 7 expert endoscopists assessed the Paris classification of 85 colonic polyps in short video clips (10-25 seconds)
- A Fleiss kappa using an absolute agreement definition was used to measure interobserver agreement with an interpretation of kappa values according to Landis and Koch\(^1\)

Results

• The interobserver agreement of the Paris classification of 85 polyps among 7 experts was ‘moderate’ with a **kappa of 0.42** (95% CI 0.39-0.45)

• When analysing the data on polyp morphology assessments into just two categories, polypoid (Paris Ip, Isp, Is) vs. non-polypoid (Paris IIa, IIb, IIc, III) the Fleiss kappa remained ‘moderate’ with a **kappa of 0.45** (95% CI of 0.40-0.49)
Conclusion

• Interobserver agreement of the Paris classification for polyp morphology was only moderate

• No improvement when polyp classification was dichotomized to polypoid vs. non-polypoid categories

• Before the Paris classification of colonic neoplasms can be adequately used in western endoscopy units, it seems necessary to train endoscopists to achieve uniformity in classifying morphology of colonic lesions.
Training

Training schedule
• Step 1: basics
• Step 2: examples
• Step 3: training
• Step 4: ‘feedback’
• Step 5: re-assessment of the same 85 polyps to evaluate agreement again
Step 1: basics

• The Paris classification is based on the Japanese classification of superficial neoplastic lesions in the gastrointestinal tract

<table>
<thead>
<tr>
<th>Table 2</th>
<th>The macroscopic classification of type 0 digestive-tract lesions, with a superficial appearance at endoscopy</th>
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</thead>
<tbody>
<tr>
<td><strong>Protruding</strong></td>
<td></td>
</tr>
<tr>
<td>Pedunculated</td>
<td>0 – Ip</td>
</tr>
<tr>
<td>Sessile</td>
<td>0 – Is</td>
</tr>
<tr>
<td><strong>Nonprotruding and nonexcavated</strong></td>
<td></td>
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<tr>
<td>Slightly elevated</td>
<td>0 – Ila</td>
</tr>
<tr>
<td>Completely flat</td>
<td>0 – IIb</td>
</tr>
<tr>
<td>Slightly depressed</td>
<td>0 – IIc</td>
</tr>
<tr>
<td>Elevated and depressed types</td>
<td>0 – IIc + Ila</td>
</tr>
<tr>
<td><strong>Excavated</strong></td>
<td></td>
</tr>
<tr>
<td>Ulcer</td>
<td>0 – III</td>
</tr>
<tr>
<td>Excavated and depressed types</td>
<td>0 – III + IIc</td>
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Step 1: basics

- We will focus only on the main type of morphology (so no combined types)

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| Protruding | Pedunculated 0–lp  
Sessile 0–ls |
| Nonprotruding and nonexcavated | Slightly elevated 0–IIa  
Completely flat 0–IIb  
Slightly depressed 0–IIc |
| Excavated | Ulcer 0–III |
Step 1: basics

- Protruding types (0-I) protrude above the surrounding surface at endoscopy:
  - 0-Ip pedunculated
  - 0-Isp subpedunculated
  - 0-Is sessile
Step 1: basics

Pedunculated (0-Ip):
– Base is more narrow than top of lesion

– M= mucosa, mm= muscularis mucosae, sm= submucosa
Step 1: basics

Subpedunculated (0-Isp):
- Intermediate and broad-based
- Same management as (0-Is) sessile polyps

Step 1: basics

Sessile (0-Is):

- Base and top of lesion have same diameter

- The protrusion of the lesion is compared with the height of the closed cups of a biopsy forceps (2.5mm), dotted arrow passes under top of lesion

- M= mucosa, mm= muscularis mucosae, sm= submucosa
Step 1: basics

- Non-protruding non-excaved types (0-II):
  - Slightly elevated (0-IIa)
  - Completely flat (0-IIb)
  - Slightly depressed (0-IIc)

Step 1: basics

Slightly elevated (0-IIa)

- Slightly higher than adjacent mucosa

- The protrusion of the lesion is compared with the height of the closed cups of a biopsy forceps (2.5mm), dotted arrow passes under top of lesion

- M= mucosa, mm= muscularis mucosae, sm= submucosa

Step 1: basics

Slightly elevated (0-IIa) vs Sessile (0-Is)

- Easily misclassified

Classification is made easier by placing a biopsy forceps as a calibrating gauge, for the height of the lesion

- Lesions protruding above the level of the closed jaws of the biopsy forceps (2.5mm), are classified as 0-Is, lesions protruding below this level are classified as 0-IIa
Step 1: basics

Completely flat (0-IIb)

- Lesion does not protrude above mucosal surface

- M = mucosa, mm = muscularis mucosae, sm = submucosa

Step 1: basics

Slightly depressed (0-IIc)

- Superficial erosions in a depressed lesion involve only the most superficial layers
- Absolutely depressed: level of depression is lower than the surface of the adjacent mucosa
- Relatively depressed: level of depression is still higher than the surface of the adjacent mucosa

- M= mucosa, mm= muscularis mucosae, sm= submucosa


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Step 1: basics

Excavated/Ulcerated (0-III)

– Lesion with deep ulcer below mucosa
– Loss of the mucosa and often of the submucosa

– Distinction between a slightly depressed (0-IIc) and excavated (0-III) lesion: based on the depth of the depression from the adjacent mucosa
– Cut-off limit is 1.2 mm in columnar epithelium
– However: 0-III extremely rare in the colon
Step 2: examples

- Assessing drawings is easier than assessing movies
- You will now see 8 examples of polyps in video clips with different types of morphology according to the Paris classification, some next to a biopsy forceps
Step 2: examples

- Difference between sessile (0-Ia) and slightly elevated (0-IIa) is difficult
- Forceps cups next to lesion make differentiation easier
- Most of the examples will show sessile or slightly elevated lesions, as we think this causes the most interobserver variability

- If you click on the picture, the movie will start (duration varies from 10-25 seconds)
Step 2: examples

- Example 1: pedunculated polyp (0-Ip)
Step 2: examples

- Example 2: sessile polyp (0-Is)
Step 2: examples

- Example 3: slightly elevated lesion (0-IIa)
Step 2: examples

- Example 4: slightly elevated lesion (0-IIa)
Step 2: examples

• Example 5: completely flat lesion (0-IIb)
Step 2: examples

• Example 6: sessile polyp (0-Ia)
Step 2: examples

- Example 7: slightly elevated lesion (0-IIa)
Step 2: examples

- Example 8: slightly elevated lesion (0-IIa)
Step 2: examples

• In preparation of the photo training, 6 photo examples are shown from the original article of the Paris workshop 2002
Step 2: examples

- Photo example 1: 0-Ia


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Step 2: examples

- Photo example 2: 0-IIa

Large bowel: type 0-IIa, laterally spreading type
Step 2: examples

- Photo example 3: 0-IIa
Step 2: examples

• Photo example 4: 0-IIc

Large bowel: type 0-IIc
Step 2: examples

- Photo example 5: 0-IIc + IIa

Large bowel: type 0-IIc + IIa, unstained, submucosal adenocarcinoma (sm2).
Step 2: examples

- Photo example 6: 0-IIc
Step 3: training

- Next you will see 32 photographs of polyps
- Please classify the morphology of these polyps according to the Paris classification on the Training Assessment Form (word document in the WeTransfer file)
- Please do not look at the Feedback Form before you filled in the Assessment form
Step 3: training

Photo 1
Step 3: training

Photo 2
Step 3: training

Photo 3
Step 3: training

Photo 4
Step 3: training

Photo 5
Step 3: training

Photo 6
Step 3: training

Photo 7
Step 3: training

Photo 8
Step 3: training

Photo 9
Step 3: training
Step 3: training

Photo 11
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Photo 12
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Photo 26

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Step 3: training

Photo 27
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Photo 28
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Photo 29
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Photo 30
Step 3: training

Photo 31

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Step 3: training

Photo 32
Step 3: training

END of TRAINING
Step 4: feedback

- You can now check your answers with the Feedback form (word document in the WeTransfer file)
- As there is no ‘golden standard’, the ‘correct’ classifications were determined by an panel of 3 physicians. Only the 32 polyps with total agreement were used for the training.
- The purpose of the training is to evaluate if the interobserver agreement improves after all 7 experts have been through the same basics and examples of the classification
- Your answers are private, no need to send these to the researcher
Step 5: re-assessment

• Please watch the 85 polyp movies again
• Classify them according to the Paris classification
• Also re-evaluate the other items
• The Clinical Record Form of the movies can be send to researcher by mail/email/fax
• Thank you very much!!