IMPROVEMENT OF QUALITY OF THE NATIONAL CANCER SCREENING PROGRAMMES IMPLEMENTATION (CRO SCREENING)

Croatia and the EU:
Together
Against Cancer

MINISTRY OF HEALTH
OF THE REPUBLIC
OF LITHUANIA

NCI
NATIONAL CANCER INSTITUTE

LITHUANIAN UNIVERSITY
OF HEALTH SCIENCES

CPVA

NIJZ
Nacionalni inštitut
za javno zdravje

Ministry
of Health
Together

HZJZ
HRVATSKI ZAVOD ZA
JAVNO ZDRAVSTVO

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Patology in Croatian
CRC screening programme

Quality assurance in planning, establishing and running an pathology screening unit (including acreditation and certification system)

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Pathology in CRC screening

- the pathology service plays an important role in CRC screening since the management of participants depends on quality and accuracy of the diagnosis

- pathologic findings affect the decision to undergo further local or major resection as well as surveillance after screening

Pathology in CRC screening

- There should be good communication between members of the screening team with agreed terminology, regular meetings and clinical discussion

- An external quality control assurance programm should be put in place, specifying a minimum of two slide circulations per year of an adequate mnumber of slides (via clusters of cells of pathologists using glass slides or electronic using images or virtual slides)

Pathology in CRC screening

- Patohology screening unit:

  - Standard equipment (tissue processor, microtome, machine staining, microscopes, educated pathologists)

  - Accepted recent knowledge
    - **WHO classification of polyps**
    - Modified Vienna classification of mucosal neoplasia
    - TNM classification of colorectal cancers (7th edition)

WHO classification of polyps, 2010)

- **Premalignant lesions (20% rule)**
  - Adenomas
    - Tubular
    - Vilous
    - Tubulovilous
- **Serated lesions (SL)**
    - Hiperplastic polyps
    - Sesile serated lesions (SSL)
    - Traditional serated adenoma (TSA)
- **Hamartomas**
    - Polips in Cowden syndroma
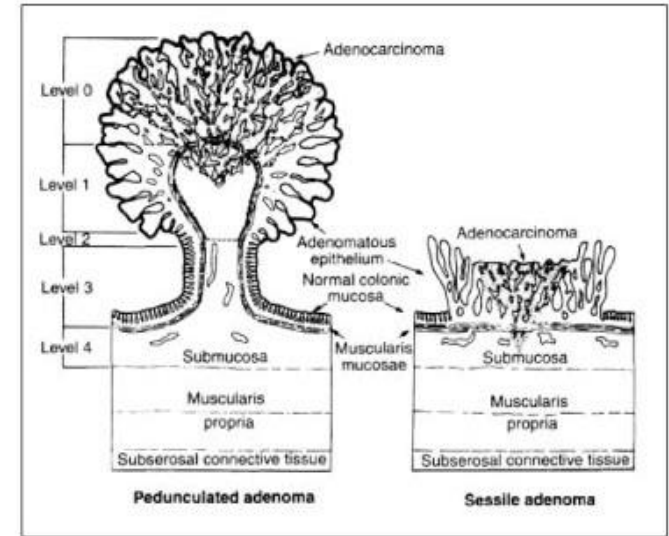   - Juvenile polyps
    - Peutz-Jeghersovi polyps

Fig. 1. Haggitt classification (18).

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Table 7.1: Adaptation of the revised Vienna classification[1] for colorectal cancer screening

1. NO NEOPLASIA:[2]
    Vienna Category 1 (Negative for neoplasia)

2. MUCOSAL LOW GRADE NEOPLASIA:
    Vienna Category 3 (Mucosal low-grade neoplasia
        Low-grade adenoma
        Low-grade dysplasia);
    Other common terminology
        mild and moderate dysplasia;
    WHO: low-grade intra-epithelial neoplasia

3. MUCOSAL HIGH GRADE NEOPLASIA:
    Vienna: Category 4.1–4.4 (Mucosal high grade neoplasia
        High-grade adenoma/dysplasia
        Non-invasive carcinoma (carcinoma *in situ*)
        Suspicious for invasive carcinoma
        Intramucosal carcinoma);
    Other common terminology
        severe dysplasia;
        high-grade intraepithelial neoplasia;
        WHO: high-grade intraepithelial neoplasia
        TNM: pTis

4. CARCINOMA invading the submucosa or beyond:
    4a. Carcinoma confined to submucosa
        Vienna: Category 5 (Submucosal invasion by carcinoma);
        TNM: pT1
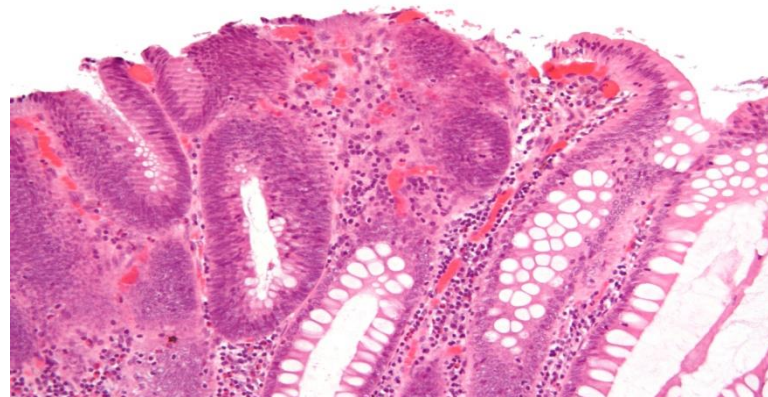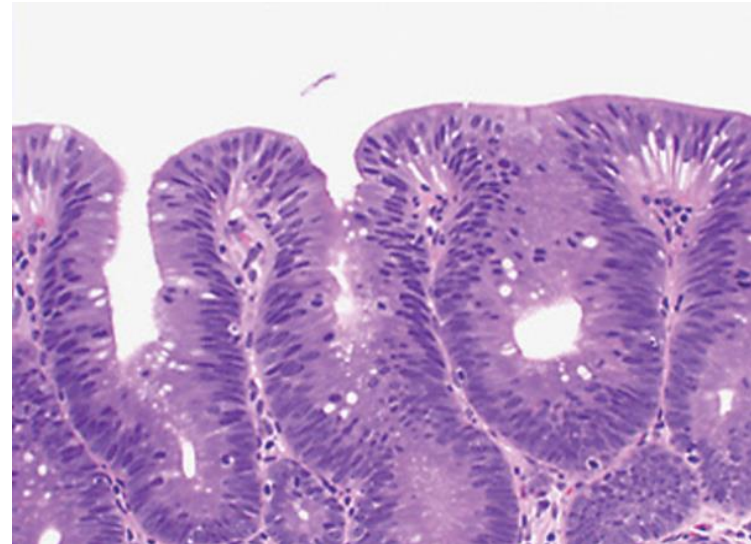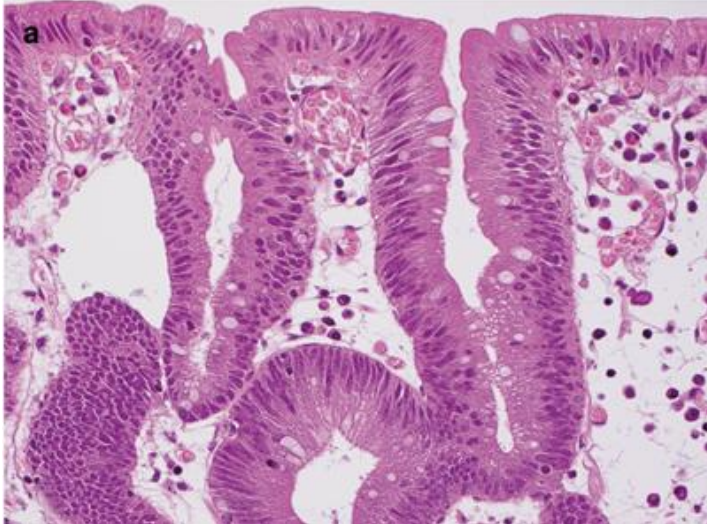   4b. Carcinoma beyond submucosa
        TNM: pT2-T4

Modified Viena classification (European Guidelines)) in two levels:

low grade mucosal neoplasia
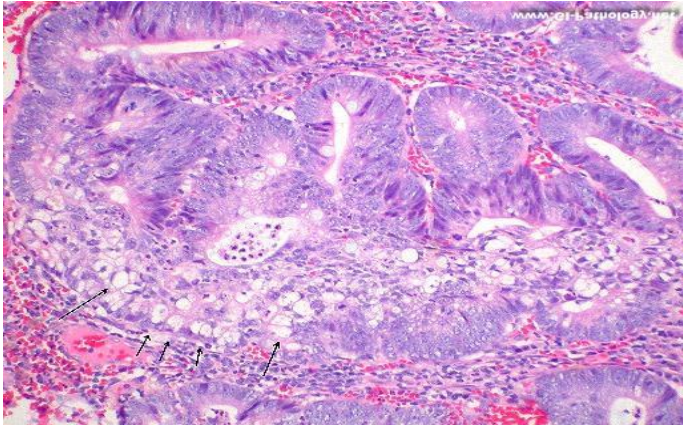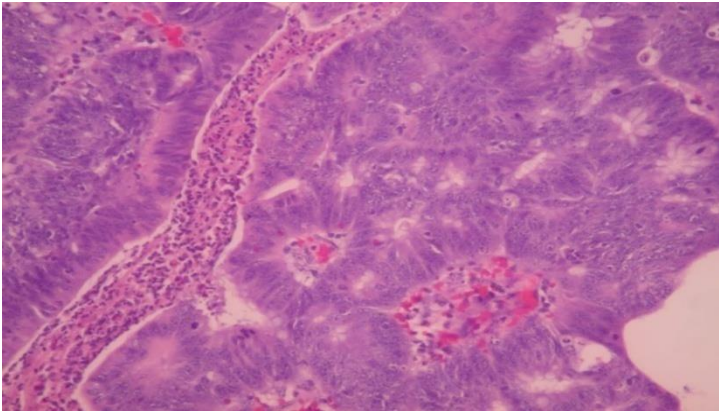high grade mucosal neoplasia
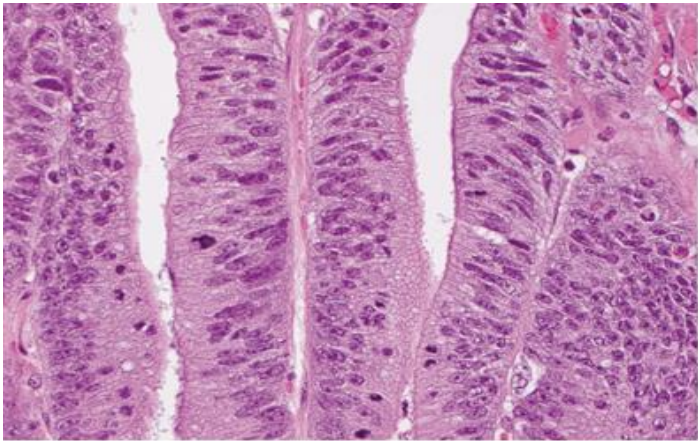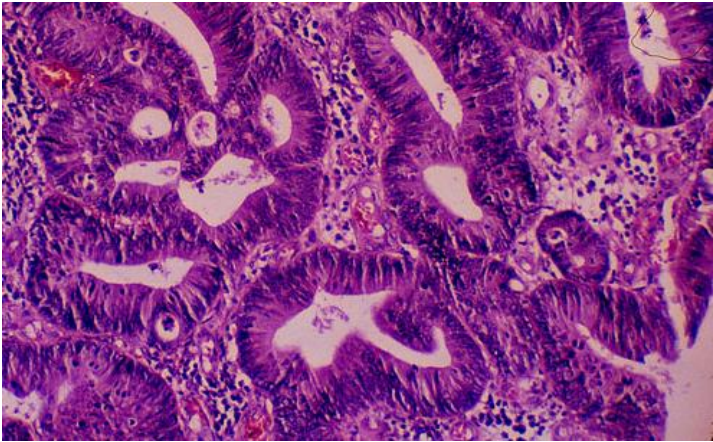
Low grade mucosal neoplasia

Hypercromatic and stratifeied cells in 2-3 rows

High grade mucosal neoplasia

high-grade dysplasia (up to 5 rows of cells)

Intramucosal carcinoma

Pathology in CRC screening

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    – Standard equipment (tissue processor, microtome, machine staining, microscopes, educated pathologists)

    – Accepted recent knowledge
        - WHO classification of polyps
        - Modified Vienna classification of mucosal neoplasia
        - **TNM classification of colorectal cancers (7th edition)**

TNM classification of colorectal cancers (7th edition)

T – primarni tumor	Klinička klasifikacija	5 izdanje(1997)	6 izdanje (2002)	7 izdanje (2009)
TX	Ne može se procijeniti	+	+	+
T0	nema tumora	+	+	+
Tis	in situ	+	+	+
T1	tm u submukozi	+	+	+
T2	tm u mišićnom sloju	+	+	+
T3	tm u subserozi	+	+	+
T4	tm zahvaća ostale organe	+	+	+
T4a	tm perforira visceralni peritonej	-	-	+
T4b	tmi zravno zahvaća organe	-	-	+
N – regionalni limfni čvorovi				
NX	ne može se procijeniti	+	+	+
N0	nema pozitivnih čvorova	+	+	+
N1	meta u 1-3 čvora	+	+	+
N1a	1 čvor	-	-	+
N1b	meta u u2-3 čvora	-	-	+
N1c	tumorski depoziti bez čvorova	-	-	+
N2	meta u 4 i više čvorova	+	+	+
N2a	4-6 čvorova	-	-	+
N2b	7 i više čvorova	-	-	+
M – udaljena metastaza				
MX		+	+	+
M0	nema metastaze	+	+	+
M1	ima udlaaene metastaze	+	+	+
M1a	meta u jednom organu	-	-	+
M1b	meta u više od 1 organa	-	-	+

Factors that affect pathology

- endoscopists
- expertise and experience of pathologist
- quality control

Factors that affect pathology

- Complete removal of polyps if is possible
- Placement of each polyp in separata vial
- Good description of polyps
- Location of polyps
- Good orientation of polyps on wide base
- expertise and experience of pathologist
- quality control

Factors that affect pathology

- endoscopists
- expertise and experience of pathologist
- quality control

Factors that affect pathology

- adequate number of histopathology units (pathologist) with specific experience in gastrointestinal pathology, colorectal cancer diagnosis & treatment and participation in MDT meetings

- Each participating pathologists reports at least 200 screening biopsies per year

(Croatia)

- App. 20 number of histopathology units (>20 pathologist) with specific experience in gastrointestinal pathology, colorectal cancer diagnosis & treatment

- We do not have data about number of screening biopsies per year for each participating pathologists in screening programme
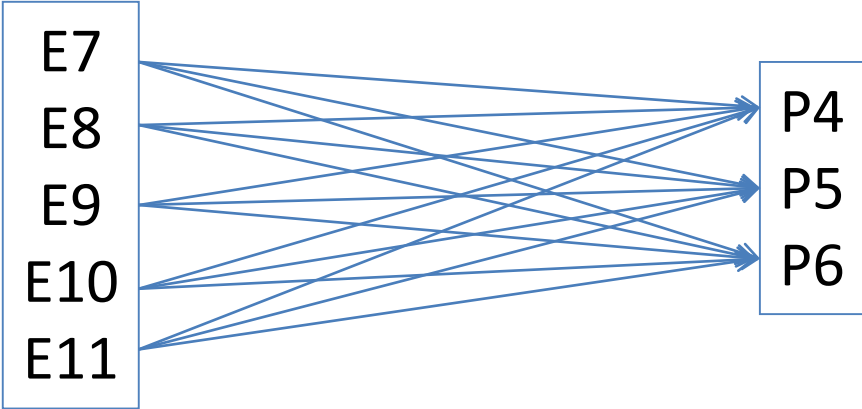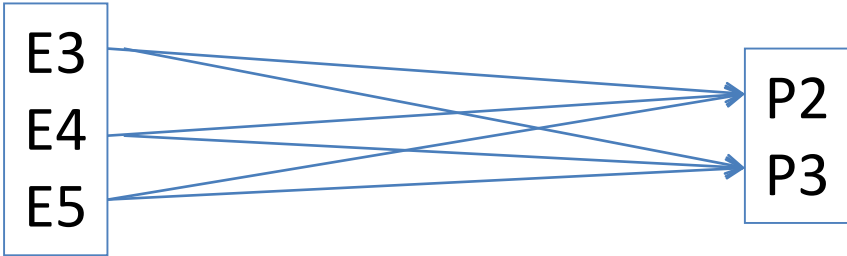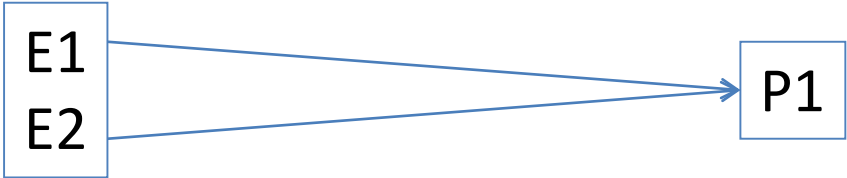
(Slovenia)

- 4 histopathology units (17 pathologist) with specific experience in gastrointestinal pathology, colorectal cancer diagnosis & treatment and participation in MDT meetings

- Each participating pathologists reports at least 200 screening biopsies per year

Factors that affect pathology (procedure)

- Fixation (10% puffered formaldehide)
- Disection of samples (polyps, mucosae resections, piecemeal samples)
- Each polyp in separate parafin block
- From each bloch cut 1-3 levels
- Standard staining with hematoxilin-eosin

Factors that affect pathology (Education)

- <u>Introductory course</u>
- Training course / workshop led by the leading gastrointestinal pathologists

Education (future)

- Training course /workshop led by the outside leading gastrointestinal pathologists with periodical refresher courses

Collection of data (today)

- In addition to written reports, diagnoses and all necessary data are entered into structured online computer database system (rarely)

- For each lesion, pathology data are linked with corresponding endoscopic data

Collection of data (future)

- In addition to written reports, diagnoses and all necessary data are entered into structured online computer database system

- For each lesion, pathology data are linked with corresponding endoscopic data

- Data can be easily retrieved and analyses performed (e.g., comparisons between pathologists, pathology units, etc.)

Factors that affect pathology

- endoscopists

- expertise and experience of pathologist

- quality control

Quality control

- analysis and comparison of data – internal quality control

- participation in an external quality assurance (EQA) programme