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small bowel. Secondary aim was to compare mean reading time of both reading modalities.

**Materials and methods:** A consecutive series of 20 patients who performed Small Bowel Capsule Endoscopy (SBCE) (Navicam, Ankon, China) from July to November 2021 at Fondazione Poliambulanza Hospital was prospectively enrolled. All capsule examinations were evaluated by an expert reader according to the standard of care (i.e. ESGE standards). A second blinded expert reader reviewed all videos in the “AI-assisted” modality. In case of discordant results between AI and Standard Reading (SR) a panel of experts was used to resolve the discrepancies. Main diagnoses (suspected SB neoplasia or high potential bleeding lesions -P2 lesions using Saurin classification) reported by each reader were compared, considering SR as gold standard. Mean reading time of the two readers was also measured and compared.

**Results:** Of 20 patients (7 males, mean age 69 ± 12) who underwent SBCE, 19 patients had a complete SB examination and were included in the interim per-patient analysis (in 1 patient the capsule remained in the stomach for the entire recording). Both standard and AI-assisted readings detected small bowel pathology in 15 patients while 4 patients had negative examination, with an overall match of the discrepancies. Main diagnoses (suspected SB neoplasia or high potential bleeding lesions -P2 lesions using Saurin classification) reported by each reader were compared, considering SR as gold standard. Mean reading time of the two readers was also measured and compared.

**Conclusions:** AI-assisted CE reading showed 100% diagnostic accuracy in detection of significant small bowel pathology with a significant reduction of reading time.

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**PC.01.3**

BROMODOMAIN-CONTAINING PROTEIN 4 (BRD4) ENHANCES INTERLEUKIN-34 EXPRESSION IN INFLAMED GUT OF PATIENTS WITH INFLAMMATORY BOWEL DISEASE

Franzè E.1, Laudisi F.1, Di Fusco D.1, Di Grazia A.1, Maresca C.1, Ortenzi A.1, Sica G.2, Montereone G.1

1Department of Systems Medicine, University of Rome “TOR Vergata”, Roma, Italy, 2Department of Surgery, University “TOR Vergata” of Rome, Rome, Italy

**Background and aim:** In inflamed gut of patients with inflammatory bowel diseases (IBD), there is enhanced production of interleukin (IL)-34, a cytokine that controls function of both immune and non-immune cells and activates multiple pathways of tissue damage. The molecular mechanisms that control IL-34 production in IBD are still largely unknown. Bromodomaining-containing protein 4 (BRD4), one of the components of bromodomain and extraterminal domain (BET) family, is a transcriptional and epigenetic regulator of cellular proliferation and cytokine production. In this study, we assessed whether BRD4 regulates expression of IL-34 in the gut

**Materials and methods:** BRD4 expression was analyzed in intestinal mucosal samples of patients with ulcerative colitis (UC), patients with Crohn’s disease (CD), normal controls (CTR) and mice with dextran sodium sulfate (DSS)-induced colitis by real-time PCR, Western blotting, and immunofluorescence. We correlated BRD4 and IL-34 protein expression in IBD lamina propria mononuclear cells (LPMC) and in the epithelial cell line, HT-29. BRD-4 was also evaluated in normal LPMC and HT-29 cells stimulated with inflammatory cytokines. IL-34 was examined in HT-29 cells treated with a specific BRD4 antisense oligonucleotide (AS)

**Results:** BRD4 RNA and protein expression was up-regulated in inflamed mucosa of patients with UC and patients with CD as compared to the uninvolved areas of the same patients and CTR, and correlated with IL-34 content. Immunofluorescence showed that, in IBD mucosa, BRD-4 and IL-34 co-localized in both epithelial cells and LPMC. Both TNF-a and IL-6 enhanced BRD4 expression in normal LPMC. Knockdown of BRD4 with a specific AS in HT-29 decreased IL-34 expression

**Conclusions:** This is the first study showing up-regulation of BRD4 in IBD and the role of such a protein in the positive control of IL-34 expression. Data suggest BRD4 is as a promising target to dampen IL-34-driven gut inflammatory pathways

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**PC.01.4**

REDUCED IMMUNE RESPONSE INDUCED BY TWO DOES OF COVID-19 VACCINE IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE: DATA FROM ESCAPE - AN IG-IBD STUDY

Macaluso F.S.1, Principi M.2, Facciotti F.3, Contaldo A.4, Todeschini A.2, Saibeni S.3, Bezzio C.3, Castiglione F.3, Nardone O.M.4, Spagnuolo R.2, Doldo P.3, Fantini M.C.4, Paba S.5, Riggio G.5, Conforti F.S.6, Viganò C.6, Ascolani M.6, Bodini G.6, Milla M.7, Scardina G.6, Verno M.7, Desideri F.7, Mannino M.7, Rizzo G.7, Caprioli F.A.8, Orlando A.9

1IBD Unit, “Villa Sofia-Cervello” Hospital, Palermo, Italy, 2Gastroenterology Department, “Aldo Moro” University, Bari, Italy, 3Istituto Europeo di Oncologia IRCCS, Dipartimento di Oncologia Sperimentale, Milano, Italy, 4Gastroenterology Unit 2, IRCCS “S. De Bellis”, Castellana Grotte, Bari, Italy, 5Gastroenterology Unit, Rho Hospital, ASST Rhodense, Rho, Milano, Italy, 6“Dipartimento di Medicina Clinica e Chirurgia, Università Federciro II di Napoli, Napoli, Italy, 7U.O. Gastroenterologia ed Endoscopia Digestiva, A.O.U. “Mater Domini”, Catanazzo; Dipartimento di Medicina Sperimentale e Clinica, Università “Magna Graecia”, Catanazaro, Italy, 8AOU Policlinico Monserrato, Dipartimento di Scienze Mediche e Sanità Pubblica, Università di Cagliari, Cagliari, Italy, 9UOSD Malattie Infiammatorie Croniche intestinali, Ospedale Santa Maria del Prato, Feltre, Italy, 10Division of Gastroenterology and Center for Autoimmune Liver Diseases, Department of Medicine and Surgery, University of Milano-Bicocca, Monza, Italy, 11UOC Gastroenterologia, Ospedale Ca’ Foncello, Treviso, Italy, 12IRCCS Policlinico San Martino, Università di Genova, Genova, Italy, 13IBD Referral Center, Gastroenterology Unit , Azienda Ospedaliero-Universitaria Careggi, Florence, Italy, 14Division di Gastroenterologia, Ospedale Valduce, Como, Italy, 15Gastroenterology Department, San Maurizio Hospital, Bolzano, Italy, 16Unità Operativa di Gastroenterologia ed Endoscopia, Fondazione IRCCS Ca Granda, Ospedale Policlinico di Milano, Milan, Italy, 17Gastroenterology Unit, Department of Medical Sciences, University of Pavia, Pavia, Italy

**Background and aim:** Patients on immunosuppressive drugs, including those with inflammatory bowel diseases (IBD), have been excluded from the trials of COVID-19 vaccines, creating concerns regarding their efficacy in this setting.

**Materials and methods:** Effectiveness and Safety of COVID-19 Vaccine in Patients with Inflammatory Bowel Disease Treated with Immunosuppressive Drugs (ESCAPE) is a prospective, multicentre, observational study assessing effectiveness and safety of COVID-19 vaccines in patients with IBD treated with different immunosuppressive drugs (ClinicalTrials.gov ID: NCT04769258). Here we present data on rates of seroconversion (cut-off for IgG anti-SARS-CoV-2: OD 0.28) and IgG anti-SARS-CoV-2 levels after 8 weeks from the second dose of COVID-19 vaccine in patients with IBD and healthy controls (HCs). The detection of anti-SARS-CoV2 specific IgG was centrally performed by a home-made validated ELISA assay.

**Results:** 1076 patients with IBD and 1126 HCs were analyzed. The great majority of subjects received homologous, double-dose mRNA-based vaccines (Pfizer or Moderna in IBD cohort: 99.0%; Pfizer in HCs: 92.7%). At 8 weeks after the second dose of COVID-19
vaccine, seroconversion was reported for most of IBD patients, even if with a slightly lesser rate compared with HCs (92.1% vs. 97.9%; p<0.001); Furthermore, the HC group had higher antibody concentrations (median 8.72 [IQR 5.2–14.2]) compared with all IBD cohort (median 1.54 [IQR 0.8–3.6]; p<0.001), and also with the subgroup of IBD patients (n=280) without any treatment or treated with amino- salicylates (5-ASA) only (median 1.72 [IQR 1.0–4.1]; p<0.001). IBD patients treated with anti-TNFs showed significantly lower median concentrations compared with those without any treatment or treated with 5-ASA only (1.30 [IQR 0.7–3.0] vs.1.72 [IQR 1.0–4.1]; p<0.001), with those treated with Vedolizumab (1.78 [IQR 1.1–4.1]; p=0.001), and with those treated with Ustekinumab (1.71 [IQR 0.9–4.9]; p=0.03). At multivariable linear regression analyses, IBD treatment was confirmed as independent predictor of anti-SARS-CoV-2 IgG levels (p<0.001), together with anti-SARS-CoV-2 IgG positivity at baseline (p<0.001), while age (p<0.001) and use of Pfizer vaccine (compared with Moderna; p<0.001) were inversely associated.

Conclusions: Although most IBD patients showed seroconversion after two doses of COVID-19 vaccines, the magnitude of the immune response was lower than in HC. This effect appears to be mostly independent of the use of immunosuppressive therapies.

PC.01.5
DELAYED ENDOSCOPY IMPACTS ON DEATH RISK IN PATIENTS WITH ACUTE UPPER GASTROINTESTINAL BLEEDING: A NATIONAL COHORT STUDY

Marmo R1, Soncini M.2, Marmo C.2*, Bucci C.3, Occhipinti V.2, Zullo A.4, Ricciioni M.E. on behalf of Gised2

1L’Ospedale Certosa, ASL Salerno, Polla (SA), Italy, 2A. Manzoni Hospital, Lecco, Italy, YORN Santonubo-Pausillian, Napoli, Italy, 3Nuovo Regina Margherita Hospital, Roma, Italy, 4Fondazione Policlinico Universitario Agostino Gemelli, IRCCS, Roma, Italy

Background and aim: Recent ESGE guidelines define as “urgent” setting of endoscopy the examination performed between 6–12 hours from patient presentation and introduce the term “delayed” endoscopy (> 24 hours). A beneficial role of urgent endoscopy (<12 hours) is not routinely demonstrated. ESGE does not recommend emergent (<6 hours) upper GI endoscopy since this could be associated with worse patient outcomes, but no recommendation exists on delayed endoscopy. Aim of the study is to verify the timing and clinical death risk in patient undergone upper gastrointestinal endoscopy by acute upper gastrointestinal bleeding.

Materials and methods: We performed a prospective multicentre cohort study, including all consecutive patients with upper gastrointestinal bleeding (UGIB) observed in 50 Italian hospitals from 1st January 2014 to 31st December 2015. American Society of Anesthesiologists (ASA) physical status classification was used as measure of clinical status and timing of endoscopy as suggested by ESGE guidelines.

Results: 3324 patients were enrolled in the study period. Source of bleeding was non variceal in 2764 (83.15%) patients, mean age was 68.10 ± 15.7, males were 2242 (67.45%). Comorbidities were present in 2652 (79.78%). Patients with ASA II score were 1148 (34.54%), ASA score III 1098 (33.03%) and ASA IV 207 (6.23%). Overall, 223 (6.71 %) patients died. Death risk increase with deterioration of performance status: ASA score IV was 34.78 % vs ASA score I was 0.92%<p>0.000.

The timing of endoscopy does not modify the overall death risk: i.e., 7.05% in patients submitted in the time frame 0–6 hours vs 5.97 % in patients submitted in the time frame 12–24 hours, vs 5.24% in those > 24 hours p<0.50. Patients without comorbidities (ASA score 1) had a low (0.93%) death risk independently by the timing of endoscopy. In patients with ASA score IV the death risk was higher for time of endoscopy between 0 – 6 hours (39.5%) and for delayed endoscopy > 24 hours (36.36%). The lower risk (18.75%) was observed for endoscopy performed in the time frame 12–24 hours.

Conclusions: Timing of endoscopy and clinical performance status modify the death risk in patients with acute upper gastrointestinal bleeding. The interaction leads a negligible death risk in patients without comorbidities, but substantial for patients with severe systemic disease (ASA IV). In this group, the delayed endoscopy increases the death risk of the same magnitude of emergent endoscopy and it exists a gold time lapse to perform the endoscopy.

PC.01.6
EVOLUTION OF THE RESIDENT MICROBIOTA IN GASTRIC CARCINOCGENESIS

Zaramella A.*,1 Arcidiacono D.2, Fassan M.1, Benna C.1, Pucciarelli S.1, De Re V.3, Cannizzaro R.3, Realdon S.3

1Università degli Studi di Padova, Padova, Italy, 2Istituto Oncologico Veneto -IOV- IRCCS, Padova, Italy, 3Centro di Riferimento Oncologico - CRO- IRCCS, Aviano, Italy

Background and aim: Gastric cancer is the fifth malignancy in term of incidence in the world ranking. Most gastric adenocarcinomas (GC) develop through a cascade of precancerous lesions starting with atrophic gastritis (AG), largely due to a long-standing Helicobacter pylori (HP) infection. Only 3% of chronic HP+ patients develop a GC, which implies the importance of other factors in GC carcinogenesis. Computational genomics demonstrated that stomach is not a sterile organ and embraces a wide diversity of microbiota. The stomach is exposed to many types of bacteria coming from the oral cavity or the reflux of the duodenal fluid. Diet, antibiotics use, mucosal immune system are key modulators of the microbiota composition. The aim of this study was to explore the gastric microbiota resident in AG with and without dysplasia or early GC to find bacteria that may play a role in cancer development.

Materials and methods: The patients (n=39) were divided into three groups according to histological findings: OLGA stage I-II AG (n=13), OLGA III-IV AG (n=13), high-grade dysplasia (HGD) or early gastric cancer (eGC) (n=13). Information on the microbial profile in the stomach was obtained from frozen lesions including the antrum and the corpus obtained during upper endoscopic examination. Sequencing of the hypervariable V3-V4 regions of the 16S rRNA gene was obtained using the Illumina Miseq platform.

Results: At the phylum level, no significant differences were found among groups. At the genus level along the progression of the disease, in the Firmicutes phylum, we showed a reduced relative abundance of Staphylococcus and an increase of the Enterococcus (Kruskal-Wallis, KW, p=0.002, p=0.005, respectively); within the