16° ΠΑΝΕΛΛΗΝΙΟ ΣΥΝΕΔΡΙΟ ΕΠΕΜΥ
με διεθνή συμμετοχή
SCIENTIFIC CONFERENCE
ON THE MUSCULOSKELETAL HEALTH
3-6 ΟΚΤΩΒΡΙΟΥ 2024 Ξενοδοχείο Du Lac, ΙΩΑΝΝΙΝΑ

«Πως θεραπεύω τον ασθενή με καρκίνο στον οποίο προϋπάρχει ή πρωτοεμφανίζεται ΙΦΝΕ;»

Δήμητρα Κοζομπόλη, Ειδικευόμενη Γαστρεντερολογίας, ΓΝΑ «Ο Ευαγγελισμός»

Νικόλαος Βιάζης, Συντονιστής Διευθυντής Γαστρεντερολογικής Κλινικής, ΓΝΑ «Ο Ευαγγελισμός»,

Επιδημιολογικά στοιχεία

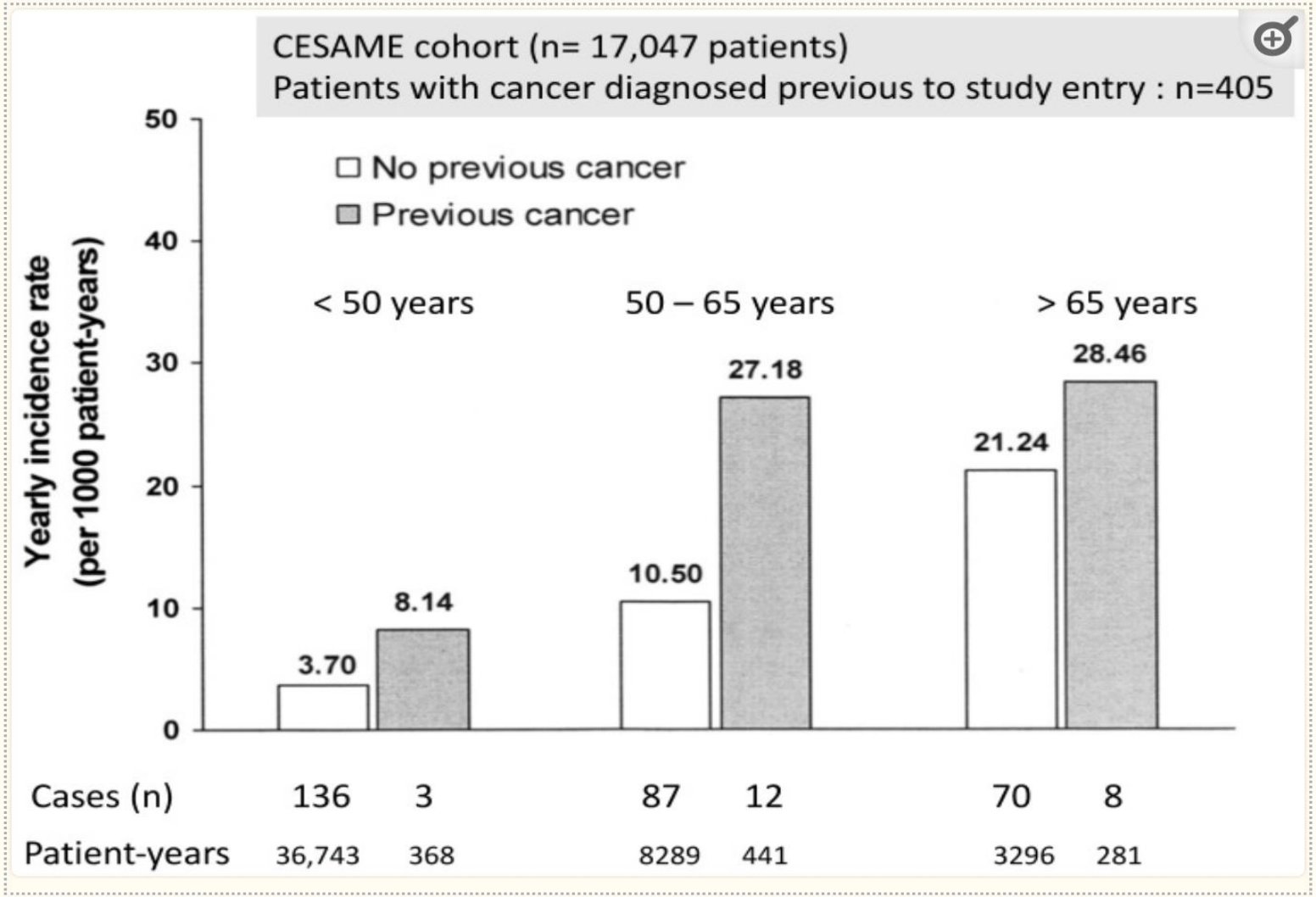


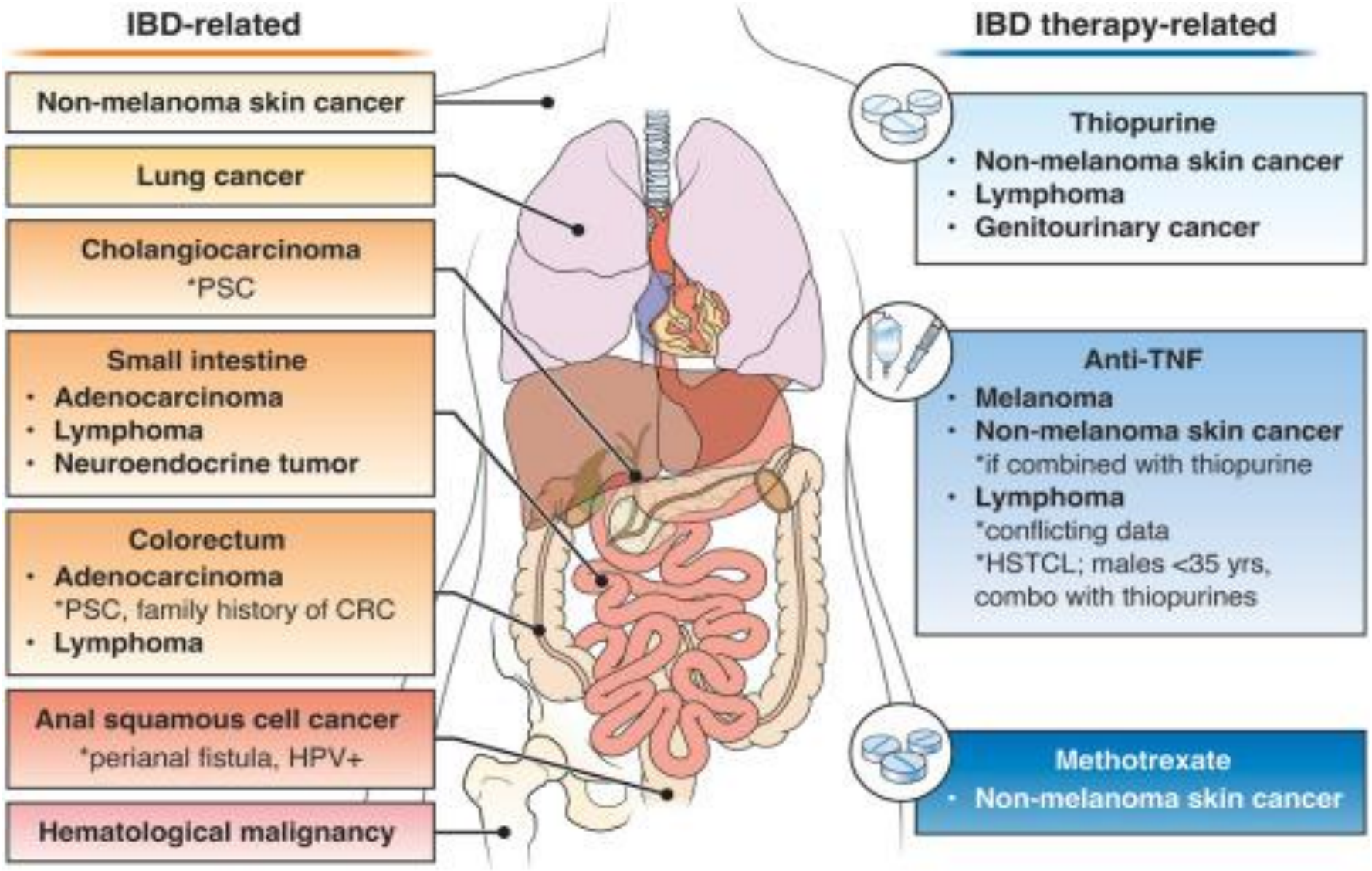
Figure 2

Annual incidence rate of cancer in IBD patients with and without previous cancer [19].

- Ο καρκίνος είναι η 2η αιτία θανάτου σε ασθενείς με ΙΦΝΕ
- Το 30% των ασθενών με ΙΦΝΕ θα διαγνωστούν με ca

Poullenot et al, Cancer
Mala et al, WJGO 2021

Συσχέτιση ΙΦΝΕ και καρκίνου:



Axerald, CGH

Στον ασθενή με ΙΦΝΕ και καρκίνο:

- **Πρέπει** να συνεχίσω την ανοσοκατασταλτική/ανοσοτροποποιητική θεραπεία?
- **Μπορώ** να ξεκινήσω ανοσοκατασταλτική/ανοσοτροποποιητική θεραπεία?
- **Ποιο** είναι το ρίσκο σε κάθε περίπτωση?
- Αν διακόψω **πότε** είναι ασφαλές να ξεκινήσω πάλι?
- Θα επηρεάσει η **αντικαρκινική θεραπεία** την πορεία τ

> Transplantation. 1993 Apr;55(4):742-7. doi: 10.1097/00007890-199304000-00011.

The effect of immunosuppression on pre-existing cancers

I Penn [1]

Affiliations + expand

PMID: 8475546 DOI: 10.1097/00007890-199304000-00011

Abstract

This study of 939 pre-existing malignancies that occurred in 913 renal transplant recipients showed that in 823 patients the tumors were treated prior to or at transplantation, in 78 after transplantation, at an unspecified time in 20, while 18 received no treatment. Of patients treated

of the uterine body, Wilms' tumors, and carcinomas of the colon, prostate, and breast. High

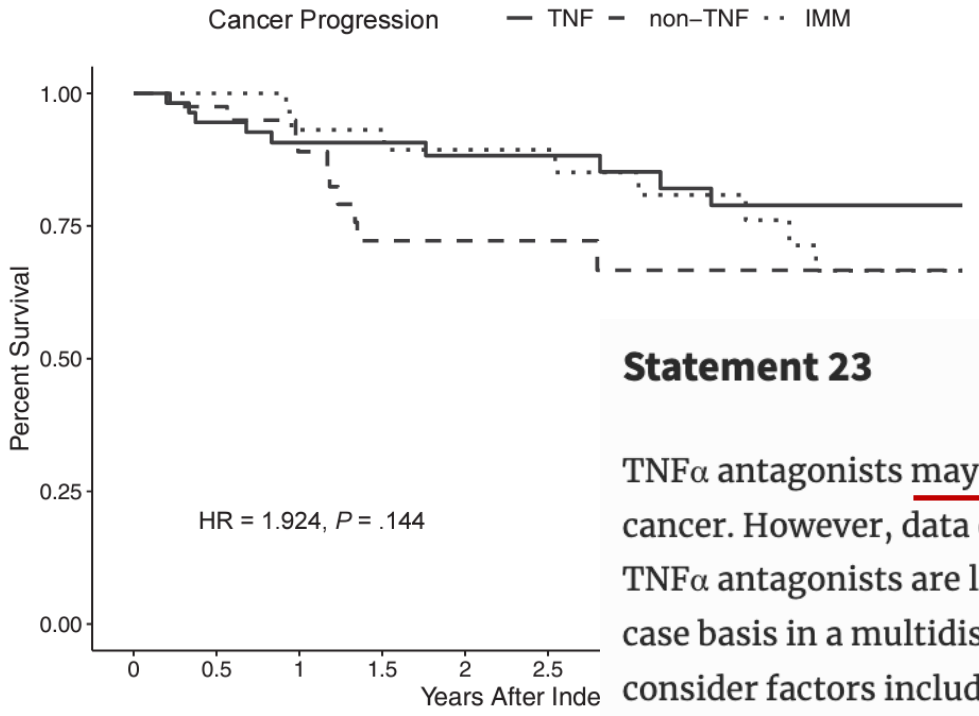
in patients treated 25-60 months pretransplantation, and 13% in patients treated > 60 months pretransplantation. Of 78 patients whose cancers were first treated after transplantation, 27% developed recurrences. However, 63% did not do so in follow-ups averaging 53 months. A two-year waiting period between treatment of cancer and transplantation is justified for most neoplasms except for incidentally discovered renal carcinomas, in situ carcinomas, and possibly focal neoplasms (a small single focus), low-grade bladder cancers, and basal cell skin cancers. In these cases no waiting period is necessary. On the other hand, a waiting period > 2 years is necessary for most malignant melanomas, breast carcinomas, and colorectal carcinomas. Conflicting data are presented as to whether immunosuppression affects growth of existing tumor cells but most of the evidence suggests acceleration of neoplastic growth.

- **Υποτροπή καρκίνου μετά την ολοκλήρωση αντινεοπλασματικής αγωγής:**
  - **53% τα 2 πρώτα χρόνια**
  - **34% 2ο με 5ο έτος**

Ισχύει το ίδιο για τις θεραπείες των ΙΦΝΕ του σήμερα???

ση για καθυστέρηση μεταμόσχευσης αναλόγως και του καρκινικού τύπου

Anti TNF και καρκίνος:



Statement 23

TNFα antagonists may be used in patients with IBD and current or previous cancer. However, data on individual cancer types and timing of treatment with TNFα antagonists are lacking. [EL4] Decisions should be made on a case-by-case basis in a multidisciplinary setting involving oncologists, and should consider factors including current and recent IBD activity and alternative treatment options [EL5] **Consensus: 100%**

- Πολυκεντρική **Αναδρομική** μελέτη
- **125** ασθενείς **με ενεργό/πρόσφατο** ca
- Non-TNF: **Vedo, Ustk, IMM**
- ›fac
- …ty score match

…ιον-TNF: δε βρέθηκε … στην ασφάλεια

- **Χαμηλό κίνδυνο προόδου καρκινικής νόσου και υποτροπής**

Holmer et al, CGH, 2023

Νεότεροι βιολογικοί παράγοντες και καρκίνος:

Statement 24

IBD patients with a history of prior malignancy do not appear to have an increased risk of cancer recurrence or new cancer when treated with vedolizumab [EL3] or ustekinumab. [EL4] There is insufficient evidence to make recommendations on the use of JAK inhibitors for patients with current or prior malignancy [EL5]

There are insufficient data regarding the safety of vedolizumab, ustekinumab, or JAK inhibitors in patients with active malignancy. Decisions should be made on a case-by-case basis in a multidisciplinary setting involving oncologists, and should consider factors including current and recent IBD activity and alternative treatment options [EL5] **Consensus**: 100%

Gordon, JCC,2022

Θειοπουρίνες στις ΙΦΝΕ και

Statement 10

Patients on thiopurine monotherapy are at increased risk for lymphoproliferative disorders [EL1] and myeloproliferative disorders. [EL3] The risk is increased for older patients.

Before starting therapy, screening for Epstein–Barr virus [EBV] infection should be considered in young adult male patients; [EL5] in patients negative for EBV IgG, medications other tha
should inform treatment selection,
other risks for lymphoma [EL5] Co

Statement 21

Thiopurines should preferably be withdrawn in patients with an active cancer diagnosis. [EL5] Patients with non-aggressive BCC or preneoplastic lesions of the cervix may continue thiopurine therapy with close monitoring [EL5]
Consensus: 100%

Statement 20

Current evidence suggests that th
with thiopurine use in patients wi
beyond the known risk associated with this class. However, most observational data are from patients starting treatment with thiopurines more than 5 years after cancer resolution, and in patients with a low risk of cancer recurrence [EL4] **Consensus: 100%**

Τοξικότητα στο μυελό των οστών

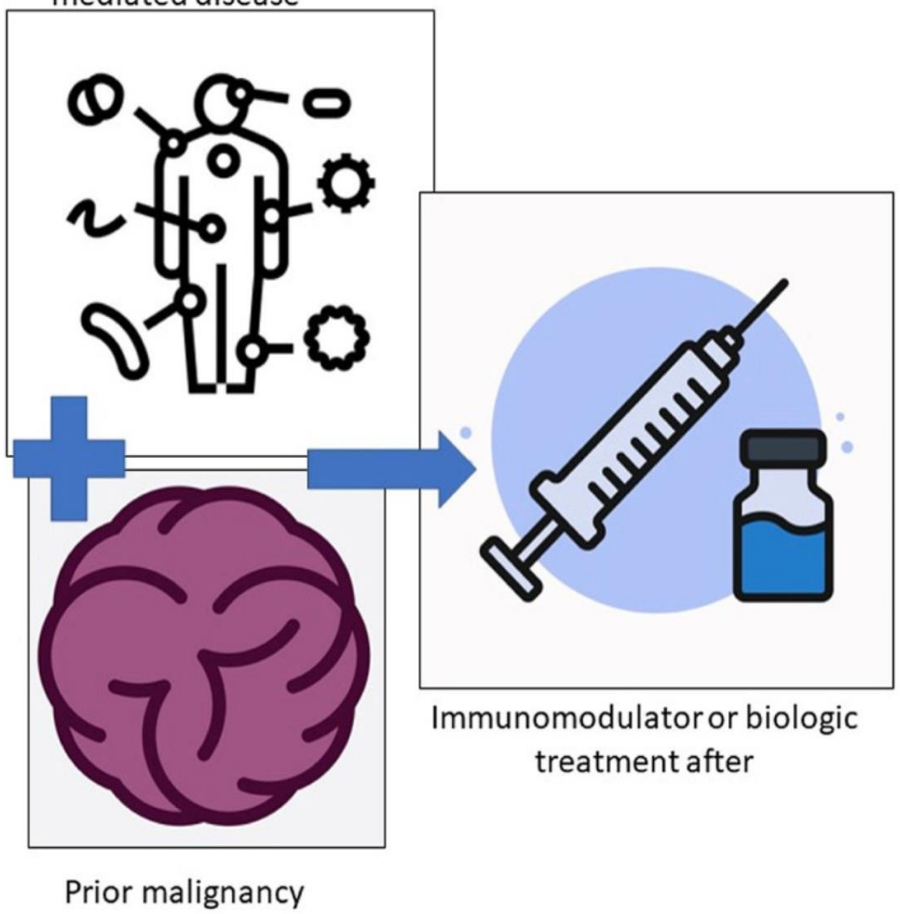
Gordon, JCC,2022

Θεραπεία ΙΦΝΕ και συγκεκριμένοι τύποι καρκίνου:

Patient with IBD on	Develops	What to do with IBD drug	Comments
Thiopurine	Lymphoma	Stop thiopurine	Most are B-cell lymphomas Increased association with Epstein-Barr virus Risk reverses after stopping thiopurine
Anti-TNF		Consider alternative therapy	Risk not supported in all studies Black box warning
Anti-TNF + thiopurine		Stop thiopurine and consider alternative therapy for anti-TNF	Increased risk of hepatosplenic T-cell lymphoma
Anti-integrin		No change	Limited data
Anti-IL 12/23, Anti-IL 23		No change	Limited data
JAK inhibitor		No change	Limited data
S1P receptor modulator		No change	Limited data
Thiopurine	Other hematologic malignancy	Consider alternative therapy	Limited data
Anti-TNF		No change	
Anti-TNF + thiopurine		No change	
Anti-integrin		No change	Limited data
Anti-IL 12/23, Anti-IL 23		No change	Limited data
JAK inhibitor		No change	Limited data
S1P receptor modulator		No change	Limited data
Thiopurine	Melanoma	No change	
Anti-TNF		Stop anti-TNF	Risk not supported in all studies
Anti-TNF + thiopurine		Stop anti-TNF	Risk not supported in all studies
Anti-integrin		No change	Limited data
Anti-IL 12/23, Anti-IL 23		No change	Limited data
JAK inhibitor		No change	Limited data
S1P receptor modulator		No change	Limited data
Thiopurine	Non-melanoma skin cancer	Stop thiopurine	Stop thiopurine if recurrent and difficult to manage skin cancers
Anti-TNF		No change	
Anti-TNF + thiopurine		Stop thiopurine	Stop thiopurine if recurrent and difficult to manage skin cancers
Anti-integrin		No change	Limited data
Anti-IL 12/23, Anti-IL 23		No change	Limited data
JAK inhibitor		No change	Limited data
S1P receptor modulator		No change	Limited data
Thiopurine	Solid organ malignancy	Consider alternative therapy	Consider cessation if cervical or genitourinary cancer Risk not supported in all studies
Anti-TNF		No change	
Anti-TNF + thiopurine		No change	Limited data
Anti-integrin		No change	Limited data
Anti-IL 12/23, Anti-IL 23		No change	Limited data
JAK inhibitor		No change	Limited data
S1P receptor modulator		No change	Limited data

Axerald, CGH 2024

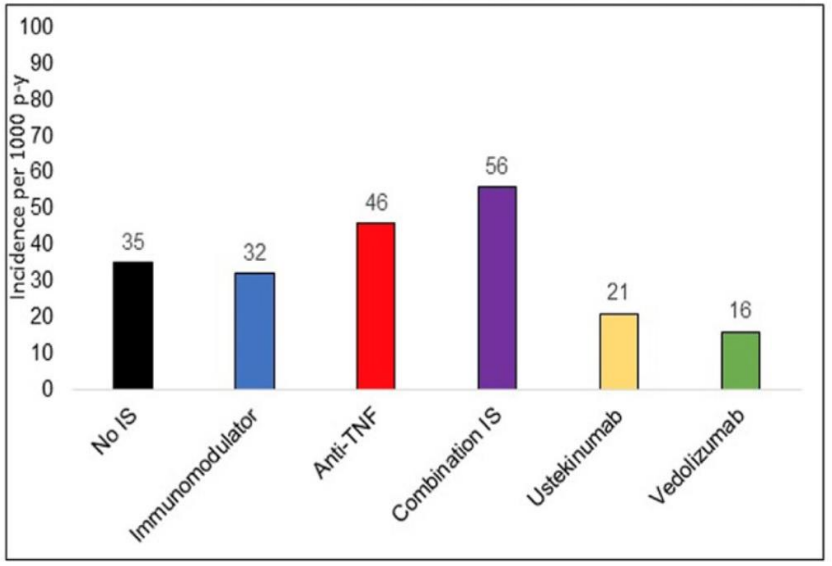
Ανοσοτροποποιητικοί/ Βιολογικοί παράγοντες και κίνδυνος για 2η κακοήθεια/υποτροπή:



31 studies (17 IBD, 14 RA, 2 psoriasis, 1 AS)
24,328 individuals
85,784 person-years of follow-up

3,778 incident cancers on follow-up
- 2,133 new primary cancer
- 1,112 recurrent cancer
- 533 unclassified

No difference in cancer incidence between the different treatments



Clinical Gastroenterology and Hepatology

Hong et al.Inflamm Bowel

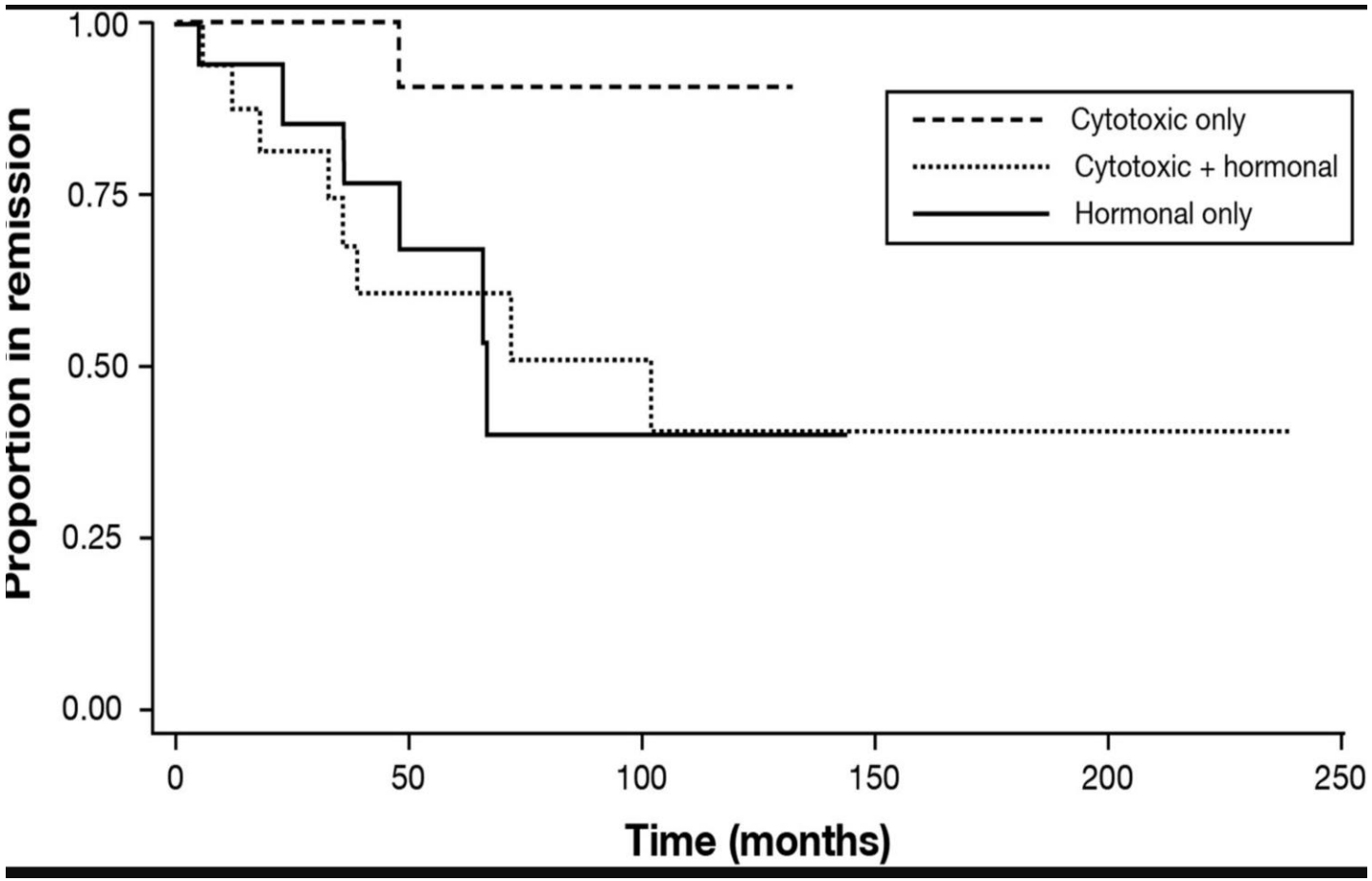
Προβληματισμοί:

- Οι RCTs **αποκλείουν** τους ασθενείς με πρόσφατη κακοήθεια
- Τα δεδομένα προέρχονται από **αναδρομικές μελέτες**

- **Μικρός** αριθμός δείγματος
- **Σχετικά** βραχεία παρακολούθηση των ασθενών
- Δυσκολία ελέγχου **συγχυτικών παραγόντων**
  - ✓ Προ-θεραπείας **ενεργότητα** ΙΦΝΕ
  - ✓ Λήψη **περισσοτέρων από μία βιολογικών/ ανοσοτροποποιητικών** θεραπειών στη πορεία της ΙΦΝΕ για **ποικίλο** χρονικό διάστημα
  - ✓ Διακοπή ανοσοτροποποιητικών/βιολογικών παραγόντων για τουλάχιστον 2-5έτη μετά την ολοκλήρωση της θεραπείας για τον καρκίνο

Πώς **επηρεάζει** η θεραπευτική αντιμετώπιση του καρκίνου την πορεία της υποκείμενης ΙΦΝΕ?

Χημειοθεραπεία και ΙΦΝΕ:



- **67% (10 ασθενείς)** αυτών με ενεργό ΙΦΝΕ→ ύφεση με κυτταροτοξική ΧΜΘ
- Προγνωστικός παράγοντας το **είδος** της αντικαρκινικής θεραπείας
- **90%** με ΙΦΝΕ σε ύφεση που έλαβαν ΧΜΘ παρέμειναν σε ύφεση (παρακολούθηση 5 έτη)
- Προτεινόμενος μηχανισμός:

Μείωση Τ λεμφοκυττάρων

Axerald et al. CGH,

ΙΦΝΕ και ορμονοθεραπεία στον καρκίνο

Multicenter Study > Clin Gastroenterol Hepatol. 2020 Apr;18(4):872-880.e1.
doi: 10.1016/j.cgh.2019.06.042. Epub 2019 Jul 11.

Hormone Therapy for Cancer Is a Risk Factor for Relapse of Inflammatory Bowel Diseases

Jordan E Axelrad [1], Ahmad Bazarbashi [2], James Zhou [3], Daniel Castañeda [4], Amandeep Gujral [5], Dylan Sperling [6], Jason Glass [7], Manasi Agrawal [8], Simon Hong [9], Garrett Lawlor [10], David Hudesman [11], Shannon Chang [11], Shailja Shah [12], Vijay Yajnik [5], Ashwin Ananthakrishnan [5], Hamed Khalili [5], Jean-Frederic Colombel [13], Steven Itzkowitz [13]; New York Crohn's and Colitis Organization

Affiliations + expand

PMID: 31302306 PMCID: PMC7354097 DOI: 10.1016/j.cgh.2019.06.042

Abstract

Background & aims: Exposure to hormone contraception has been associated with an increased risk of relapse of inflammatory bowel diseases (IBDs). Little is known about the effects of cancer therapies, specifically hormone therapies, on the course of IBD.

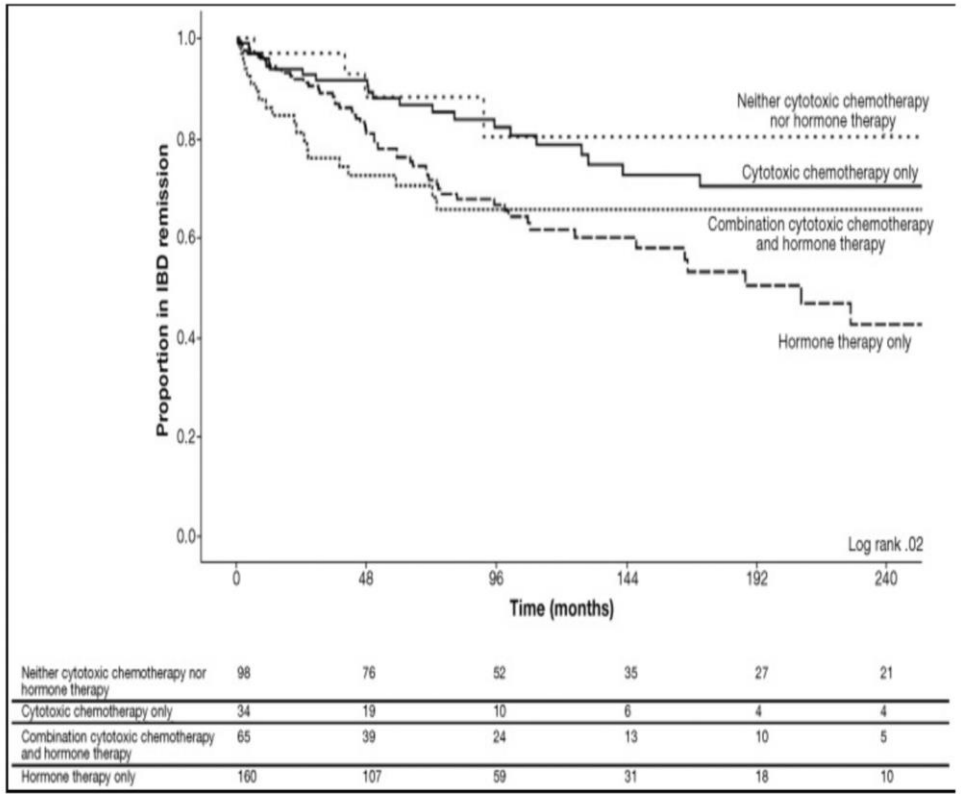
Methods: We conducted a retrospective cohort study, collecting data from 5 medical centers, on patients with IBD who received a subsequent diagnosis of breast or prostate cancer from 1997 through 2018. For patients with quiescent IBD at their cancer diagnosis, the primary outcome was relapse of IBD. For patients with active IBD at their cancer diagnosis, the primary outcome was IBD remission.

Results: Our analysis included 447 patients with IBD (44% with Crohn's disease, 53% with ulcerative colitis, and 3% with IBD unclassified) who had either breast (78%) or prostate (22%) cancer. At their cancer diagnosis, 400 patients (90%) had inactive IBD, and 47 (10%) had active IBD. Among patients with inactive IBD, 112 (28%) developed active IBD. Previous exposure to steroids, immunomodulators, or biologics was associated with IBD relapse after a cancer diagnosis (hazard ratio [HR] for steroids, 1.79; 95% CI, 1.18-2.71; HR for immunomodulators, 2.22; 95% CI, 1.38-3.55; HR for biologics, 1.95; 95% CI, 1.01-5.36). Hormone monotherapy (HR, 2.00; 95% CI, 1.21-3.29) and combination cytotoxic and hormone therapy (HR, 1.86; 95% CI, 1.01-3.43) was associated with IBD relapse. Among 34 patients who received only cytotoxic chemotherapy, 75% remained in remission from IBD at 250 months compared with 42% of those who received hormone monotherapy (log rank, 0.02). Among patients with active IBD at their cancer diagnosis, 14 (30%) entered remission from IBD, but there were no significant factors of achieving IBD remission.

Conclusions: In a multicenter retrospective study, we found that patients with IBD and breast or prostate cancer who receive hormone therapy have an increased risk for relapse of IBD and related adverse outcomes.

Keywords: CD; UC; disease flare; long-term outcome.

Figure.



Neither cytotoxic chemotherapy nor hormone therapy	98	76	52	35	27	21
Cytotoxic chemotherapy only	34	19	10	6	4	4
Combination cytotoxic chemotherapy and hormone therapy	65	39	24	13	10	5
Hormone therapy only	160	107	59	31	18	10

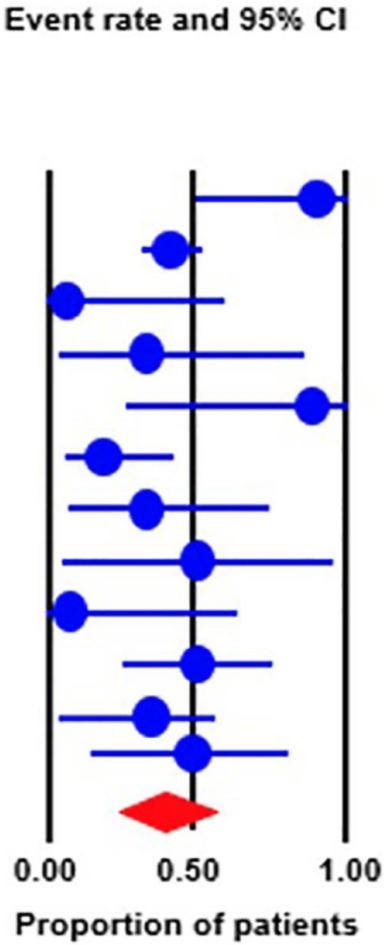
Time to IBD-related surgery, hospital admission, disease complication, steroid prescription, or endoscopic recurrence requiring a change in IBD management stratified by chemotherapeutic regimen.

Ανοσοθεραπεία και ΙΦΝΕ:

- CTLA-4 (Ipilimumab, Tremenlimumab
- PD-1 (Pembrolizumab, Nivolumab)
- PD-L1 (atezolizumab, durvalumab, avelumab)

Risk of Relapse of IBD with Checkpoint Inhibitors

Study name	Event rate	Lower limit	Upper limit	Events/ Total
Abdel	0.889	0.518	0.997	8 / 9
AbuSbeih	0.412	0.315	0.514	42 / 102
Leonardi	0.000	0.000	0.459	0 / 6
Kahler	0.333	0.043	0.906	1 / 3
Cortellini	1.000	0.292	1.000	3 / 3
Grover	0.190	0.054	0.419	4 / 21
Johnson	0.333	0.043	0.777	2 / 6
Kaur	0.500	0.013	0.987	1 / 2
Menzies	0.000	0.000	0.522	0 / 5
Tison	0.500	0.230	0.770	7 / 14
Braga Neto	0.308	0.091	0.614	4 / 13
Brown	0.556	0.212	0.863	5 / 9
IBD RELAPSE	0.398	0.261	0.545	77 / 193



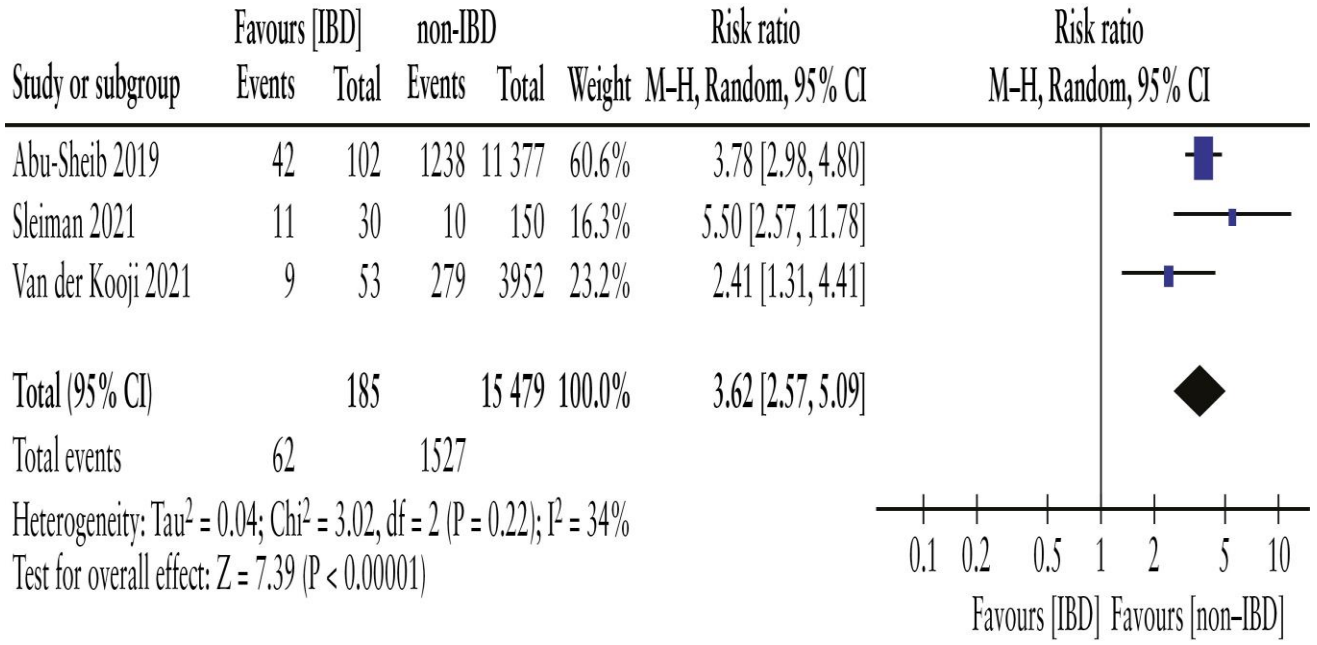
Έξαρση IBD στο **40%** των ασθενών (95% CI, 26.1-54.5), **I^2: 66%)**

Αντιμετώπιση:

- 76% κορτικοστεροειδή
- 37% βιολογικό παράγοντα
- Το 35% διέκοψε ICI

Meserve et al, Aliment Pharmacol

ICI τοξικότητα ΓΕΣ σε ασθενείς με vs χωρίς ΙΦΝΕ :



- **Αυξημένος σχετικός** κίνδυνος τοξικότητας ΓΕΣ

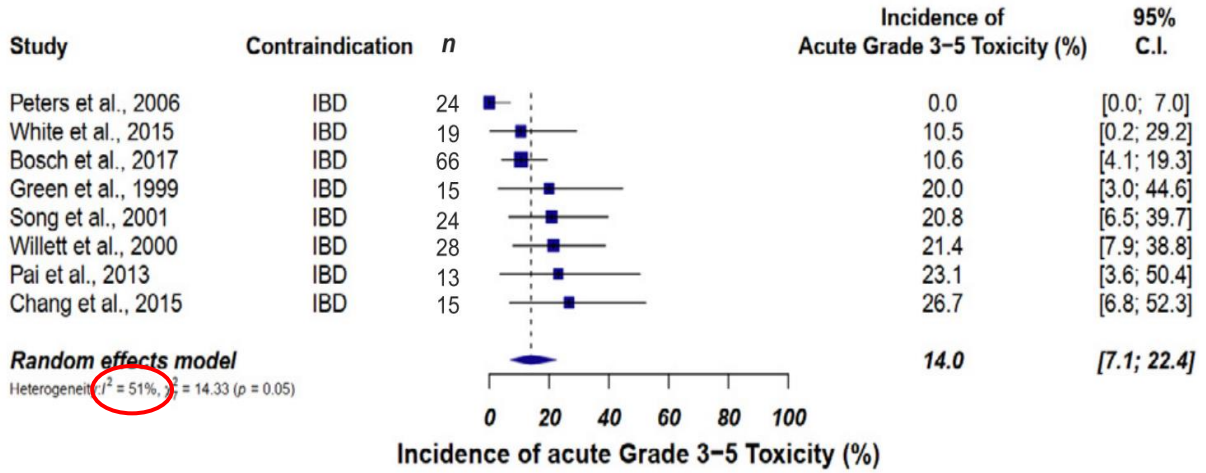
RR **3.62** (95% CI 2.5—5.09, I^2 :34%, p<0.01)

- **Όμως:**

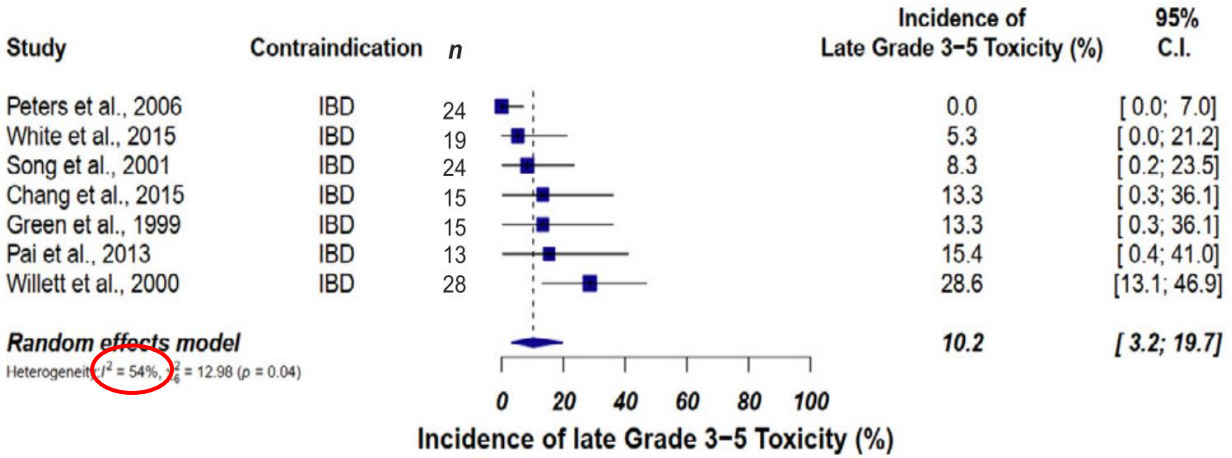
- Μικρός αριθμός μελετών
- Δεν ελήφθη υπόψη η προ-θεραπείας ενεργότητα ΙΦΝΕ

Sigrun Grimsdottir et al.
JCC, 2023

Ακτινοβολία και ΙΦΝΕ



D



- **Οξεία τοξικότητα 3-5ου βαθμού στο 14%**
- **Καθυστερημένη τοξικότητα 3-5ου βαθμού 10.2%**

Όμως

Ασθενείς με ποικίλα:

- Χαρακτηριστικά ΙΦΝΕ και ενεργότητα
- Τύπους καρκίνου
- Δόσεις ακτινοθεραπείας

και

- Δυσκολία ΔΔ έξαρσης ΙΦΝΕ vs τοξικότητα ακτινοβολίας
- Διαφορετικά συστήματα ταξινόμησης τοξικότητας

Lin et al,Radiother Onc

Προβληματισμοί:

- **Ομαδοποίηση** των αντινεοπλασματικών θεραπειών με βάση τη γενικότερη δράση τους **χωρίς** να εξετάζεται κάθε φάρμακο ξεχωριστά
- Συχνά χορηγείται **συνδυασμός** παραγόντων
- Διαφορετικοί τύποι καρκίνου
- Πολλά αντινεοπλασματικά φάρμακα έχουν ΓΕΣ τοξικότητες και συνεπώς δυσκολία **ΔΔ** από έξαρση ΙΦΝΕ
- Η **διακοπή των βιολογικών/ανοσοτροποποιητικών** φαρμάκων είναι συγχυτικός παράγοντας
- **Δε** λαμβάνεται πάντα υπόψη η ενεργότατα ΙΦΝΕ προ της έναρξης ΧΜΘ
- **Συχνά λαμβάνουν και κορτικοειδή** ως μέρος του σχήματος θεραπείας

Ο ασθενής με κακοήθεια και πρωτοεμφανιζόμενη ΙΦΝΕ- **τι παραπάνω θα λάβω υπόψιν?**

Ο ασθενής με κακοήθεια και πρωτοεμφανιζόμενη ΙΦΝΕ?

IBD Mimics presented at IBD LIVE, 2018–2023

Category	Mimic	*n* =	Diagnoses
Systemic diseases	CD	21	Vasculitis (7), CVID (2), Sweets (1), EGPA (1), CHAI (1), BADAS (1), Behcet's (1), eosinophilic esophagitis (1), carcinoid (1), histoplasmosis (sarcoidosis (1), amyloidosis (1), PIK3cd (1), adrenal insufficiency (1)
Ileal disorders	CD	15	BCL (4), IMHMV (2), follicular lymphoma (1), T-cell lymphoma (1), Kaposi's sarcoma (1), Meckel's diverticulum (1), pouchitis (1), appendi carcinoid (1), tropical sprue (1), collagenous sprue (1), and autoimmune enteropathy (1)
Medication-induced	UC/CD	7	**UC:** Immune checkpoint inhibitor (Pembrolizumab [1], Ipilimumab + Nivolumab [2]) **CD:** Chemotherapy (Encorafenib + Binimetinib [1]), Olmesartan (1), Mycophenolate (1), mu-opioid receptor agonist (Kratom) + GABA-mim (Phenibut; 1)
Colonic inflammation	UC	4	Ischemic colitis (1), diversion colitis (1), CMV colitis (1), STI proctitis (
Diverticular disease + colitis	CD	2	SCAD (2)
Polyposis disorders	UC	2	Cronkhite-Canada syndrome (1), juvenile polyposis syndrome (1)
Obstruction	CD	2	Abdominal actinomyces (1), cecal volvulus (1)
Perianal disease	CD	1	Cryptoglandular abscess (1)
No diagnosis made	UC/CD	11	Unclear at time of IBD LIVE (9), presumed C-MUSE (1), presumed congenital tailgut cyst (1)

Fiske et al. Crohns

Case Rep Gastrointest Med. 2020; 2020: 6135425.
Published online 2020 Mar 23. doi: 10.1155/2020/6135425
PMCID: PMC7128061
PMID: 32328317

Ulcerative Colitis in Hematological Malignancies: Paraneoplastic Manifestation or Coincidental Bystander?

Gregorios Christodoulidis, [1] Konstantinos Perivoliotis, [1] Anastasios Manolakis, [2] Alexandros Diamantis, [1] Apostolos Koffas, [2] Dimitrios Magouliotis, [1] Vasiliki Pappi, [3] and Dimitrios Zacharoulis [1]

J Inflamm Res. 2023; 16: 3319–3327.
Published online 2023 Aug 8. doi: 10.2147/JIR.S418733
PMCID: PMC10422985
PMID: 37576158

A Case of Ulcerative Colitis Induced by Paraneoplastic Syndrome?

Tao Zhang, [1] Zhu-Bin Pan, [1] Wen-Jia Tong, [2] Yu-Liang Zhou, [1] Yuan Cheng, [1] Dan-Qun Jin, [2] Shi-Qin Qi, [1] and Zhen-Qiang Zhang [1]

The LIR!C study..

Research in context

Evidence before this study

Treatment of patients with ileocaecal Crohn's disease in whom conventional therapy fails is commonly scaled up to biological agents. However, surgery can offer excellent short-term and long-term results. We searched PubMed and Embase from March 14–17, 2017, with the following terms: "laparoscopic ileocaecal resection", "infliximab", "anti-TNF", Crohn's disease", and "quality of life". Publications in English between Jan 1, 1990, and Jan 1, 2017, were accepted.

Added value of this study

Effectiveness of laparoscopic ileocaecal resection and infliximab in restoring quality of life has previously been shown, but no randomised controlled trials had compared these strategies directly. We showed that laparoscopic ileocaecal resection did not improve quality-of-life scores to a significantly greater extent than infliximab treatment, but results in similar quality-of-life scores and is not associated with more serious adverse events. Long-term follow-up data indicated that more than a third of the patients who started on infliximab required an ileocaecal resection within a few years, whereas only one in four patients who initially had resection needed anti-TNF therapy later.

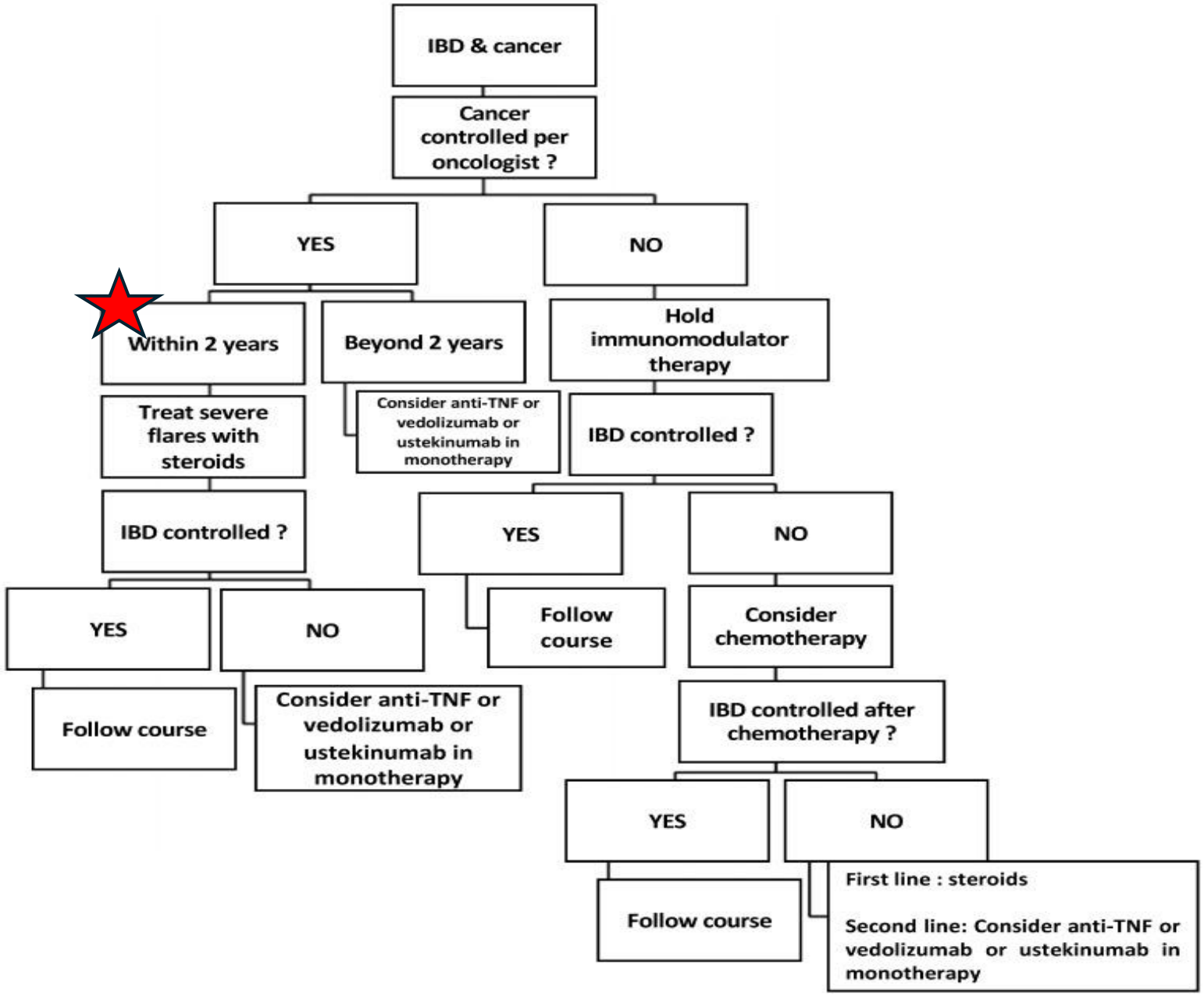
Implications of all the available evidence

Based on this trial, we conclude that laparoscopic ileocaecal resection is a reasonable alternative to infliximab in patients with limited, non-stricturing, ileocaecal Crohn's disease in whom conventional therapy fails.

- Πολυκεντρική RCT
- Infliximab vs Laparoscopic Ileocecal resection
- Ασθενείς με ενεργό ειλεϊτιδα <40εκ και αποτυχία σε 3 μήνες θεραπεία με γλυκοκορτικοειδή/θειοπουρίνες/MTX
- Συγκρίσιμα αποτελέσματα στον 1 χρόνο
- Στα 5χρόνια:
  - 1/69 resection group→ 2° χειρουργείο
  - **20% δε χρειάστηκε φαρμακευτική αγωγή**
  - 1/3 infx group → χρειάστηκε χειρουργείο

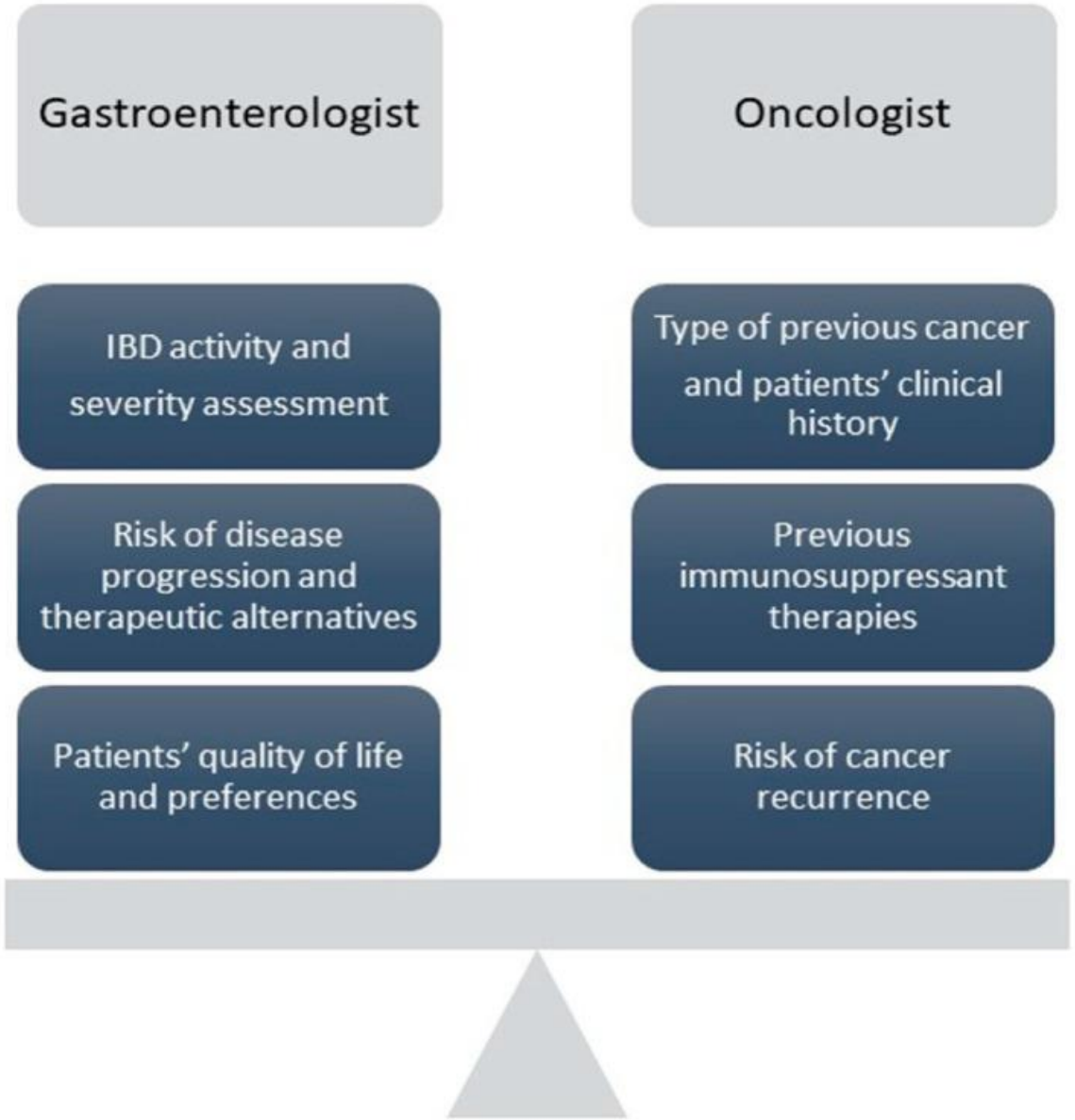
Ponsioen et al.Lancet Gastroenterol Hepatol. 2017

Αλγόριθμος αντιμετώπισης ασθενών με ΙΦΝΕ και καρκίνο:



Poullenot et al,

Συμπερασματικά:



- Κατά περίπτωση προσέγγιση ασθενούς
- MDT που να περιλαμβάνει και ογκολόγο και γαστρεντερολόγο **με ειδικό ενδιαφέρον στις ΙΦΝΕ**
- Ο ασθενής **ενημερώνεται** για τους κινδύνους και **συμμετέχει** στις απόφάσεις

Ferretti et al, cancers, 2023

Ευχαριστώ για την προσοχή σας!

Ενδεικτική Βιβλιογραφία:

1. Ferretti, F., et al., *Therapeutic Management of Adults with Inflammatory Bowel Disease and Malignancies: A Clinical Challenge.* Cancers (Basel), 2023. **15**(2).
2. Shirwaikar Thomas, A., S. Hanauer, and Y. Wang, *Immune Checkpoint Inhibitor Enterocolitis vs Idiopathic Inflammatory Bowel Disease.* Clinical Gastroenterology and Hepatology, 2023. **21**(4): p. 878-890.
3. Fiske, H.W., et al., *Clinical Decision Making in Inflammatory Bowel Disease Mimics: Practice Management from Inflammatory Bowel Disease LIVE.* Crohns Colitis 360, 2024. **6**(2): p. otae022.
4. Holmer, A.K., et al., *Comparative Safety of Biologic Agents in Patients With Inflammatory Bowel Disease With Active or Recent Malignancy: A Multi-Center Cohort Study.* Clin Gastroenterol Hepatol, 2023. **21**(6): p. 1598-1606.e5.
5. Grimsdottir, S., et al., *Systematic Review with Meta-analysis: The Impact of Cancer Treatments on the Disease Activity of Inflammatory Bowel Diseases.* Journal of Crohn's and Colitis, 2023. **17**(7): p. 1139-1153.
6. Gupta, A., L. Peyrin-Biroulet, and A.N. Ananthakrishnan, *Risk of Cancer Recurrence in Patients With Immune-Mediated Diseases With Use of Immunosuppressive Therapies: An Updated Systematic Review and Meta-Analysis.* Clinical Gastroenterology and Hepatology, 2024. **22**(3): p. 499-512.e6.
7. Poullenot, F. and D. Laharie, *Management of Inflammatory Bowel Disease in Patients with Current or Past Malignancy.* Cancers (Basel), 2023. **15**(4).
8. Axelrad, J.E., et al., *Effects of cancer treatment on inflammatory bowel disease remission and reactivation.* Clin Gastroenterol Hepatol, 2012. **10**(9): p. 1021-7.e1.
9. Meserve, J., et al., *Systematic review with meta-analysis: safety and tolerability of immune checkpoint inhibitors in patients with pre-existing inflammatory bowel diseases.* Aliment Pharmacol Ther, 2021. **53**(3): p. 374-382.
10. Gordon, H., et al., *ECCO Guidelines on Inflammatory Bowel Disease and Malignancies.* Journal of Crohn's and Colitis, 2022. **17**(6): p. 827-854.
11. Itzkowitz, S.H., et al., *Safety of Immunosuppression in a Prospective Cohort of Inflammatory Bowel Disease Patients With a HIstoRy of CancEr: SAPPHIRE Registry.* Clin Gastroenterol Hepatol, 2024.
12. Lin, D., et al., *Toxicity after radiotherapy in patients with historically accepted contraindications to treatment (CONTRAD): An international systematic review and meta-analysis.* Radiother Oncol, 2019. **135**: p. 147-152.
13. Axelrad, J.E., et al., *Hormone Therapy for Cancer Is a Risk Factor for Relapse of Inflammatory Bowel Diseases.* Clin Gastroenterol Hepatol, 2020. **18**(4): p. 872-880.e1.
14. Axelrad, J.E., J.G. Hashash, and S.H. Itzkowitz, *AGA Clinical Practice Update on Management of Inflammatory Bowel Disease in Patients With Malignancy: Commentary.* Clinical Gastroenterology and Hepatology, 2024. **22**(7):