

世界华人消化杂志®

**WORLD CHINESE
JOURNAL OF DIGESTOLOGY**

Shijie Huaren Xiaohua Zazhi

2021 年 1 月 28 日 第 29 卷 第 2 期 (Volume 29 Number 2)



2 / 2021

ISSN 1009-3079



9 771009 307056

《世界华人消化杂志》是一本高质量的同行评议、开放获取和在线出版的学术刊物。本刊被国际检索系统《化学文摘(Chemical Abstracts, CA)》、《医学文摘库/医学文摘(EMBASE/Excerpta Medica, EM)》、《文摘杂志(Abstract Journal, AJ)》、Scopus、中国知网《中国期刊全文数据库(CNKI)》、《中文科技期刊数据库(CSTJ)》和《超星期刊域出版平台(Superstar Journals Database)》数据库收录。



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编务 王栋梅; 送审编辑 张晗; 组版编辑 张砚梁; 英文编辑 王天奇;
形式规范审核编辑部主任 吴云晓健; 最终清样审核总编辑 马连生

世界华人消化杂志

Shijie Huaren Xiaohua Zazhi

吴阶平 题写封面刊名

陈可冀 题写版权刊名

(半月刊)

创 刊 1993-01-15

改 刊 1998-01-25

出 版 2021-01-28

原刊名 新消化病学杂志

期刊名称

世界华人消化杂志

国际标准连续出版物号

ISSN 1009-3079 (print) ISSN 2219-2859 (online)

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Baishideng Publishing Group Inc

7901 Stoneridge Drive, Suite 501, Pleasanton, CA 94588, USA

Telephone: +1-925-3991568

E-mail: wcjd@wjgnet.com

<http://www.wjgnet.com>

出版

百世登出版集团有限公司

Baishideng Publishing Group Inc

7901 Stoneridge Drive, Suite 501, Pleasanton, CA 94588, USA

Telephone: +1-925-3991568

E-mail: bpgoffice@wjgnet.com

<https://www.wjgnet.com>

制作

北京百世登生物医学科技有限公司
100025, 北京市朝阳区东四环中路
62号, 远洋国际中心D座903室
电话: +86-10-85381892

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《世界华人消化杂志》正式开通了在线办公系统(<https://www.baishideng.com>), 所有办公流程一律可以在线进行, 包括投稿、审稿、编辑、审读, 以及作者、读者和编者之间的信息反馈交流.

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定价

每期136.00元 全年24期3264.00元

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Indexed/Abstracted by

Chemical Abstracts, EMBASE/Excerpta Medica, Abstract Journals, Scopus, CNKI, CSTJ and Superstar Journals Database.

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Shijie Huaren Xiaohua Zazhi

Founded on January 15, 1993
Renamed on January 25, 1998
Publication date January 28, 2021

NAME OF JOURNAL

World Chinese Journal of Digestology

ISSN

ISSN 1009-3079 (print) ISSN 2219-2859 (online)

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7901 Stoneridge Drive, Suite 501, Pleasanton, CA 94588, USA
Telephone: +1-925-3991568
E-mail: wjcd@wjgnet.com
<https://www.wjgnet.com>

PUBLISHER

Baishideng Publishing Group Inc
7901 Stoneridge Drive, Suite 501, Pleasanton, CA 94588, USA
Telephone: +1-925-3991568
E-mail: bpgoffice@wjgnet.com
<https://www.wjgnet.com>

PRODUCTION CENTER

Beijing Baishideng BioMed Scientific Co., Limited Room 903, Building D, Ocean International Center, No. 62 Dongsihuan Zhonglu, Chaoyang District, Beijing 100025, China
Telephone: +86-10-85381892

PRINT SUBSCRIPTION

RMB 136 Yuan for each issue
RMB 3264 Yuan for one year

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Full instructions are available online at <https://www.wjgnet.com/1009-3079/Nav/36>. If you do not have web access, please contact the editorial office.

急性重症溃疡性结肠炎的治疗

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收稿日期: 2020-10-28

修回日期: 2020-11-24

接受日期: 2020-12-21

在线出版日期: 2021-01-28

Treatment of acute severe ulcerative colitis

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Received: 2020-10-28

Revised: 2020-11-24

Accepted: 2020-12-21

Published online: 2021-01-28

Abstract

Acute severe ulcerative colitis (ASUC) is a potentially life-threatening medical emergency. Due to the increasing incidence of ulcerative colitis in recent years, ASUC has become increasingly common in clinical practice.

Presently, corticosteroids remain the first choice, whose efficacy should be evaluated after 3 d. If unsatisfactory, it should be switched to infliximab or cyclosporine salvage treatment timely. Besides, colectomy may be an option when medical treatment is ineffective or serious complications occur. This review describes the current treatment regimens for ASUC, with an aim to help develop treatment plans and improve the prognosis and life quality of patients with ASUC.

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Key Words: Acute severe ulcerative colitis; Corticosteroids; Salvage treatment; Intensive induction therapy; Colectomy

Citation: Li JR, Ling FM, Chen YD, Xu MY, Zhu LR. Treatment of acute severe ulcerative colitis. *Shijie Huaren Xiaohua Zazhi* 2021; 29(2): 87-92

URL: <https://www.wjgnet.com/1009-3079/full/v29/i2/87.htm>

DOI: <https://dx.doi.org/10.11569/wcjd.v29.i2.87>

摘要

急性重症溃疡性结肠炎(acute severe ulcerative colitis, ASUC)是一种医疗紧急情况, 有危及生命的风险. 随着近年来溃疡性结肠炎发病率的不断上升, 临床上ASUC也愈发常见. 目前激素仍是主要治疗手段, 激素治疗3 d后应评估疗效, 疗效欠佳时及时转换为英夫利昔单抗或环孢素抢救治疗, 内科治疗效果欠佳或发生严重并发症时, 可选择结肠切除术. 本综述阐述了目前ASUC常用治疗方案, 有助于临床医疗决策的制定, 改善患者预后, 并提高患者生活质量.

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关键词: 急性重症溃疡性结肠炎; 激素; 抢救治疗; 强化诱

导治疗; 结肠切除术

核心提要: 对于急性重症溃疡性结肠炎(acute severe ulcerative colitis, ASUC)的治疗, 目前激素仍是首选药物, 治疗3 d后应及时评估疗效; 疗效欠佳时应及时转换为抢救治疗方案, 常用药物为英夫利昔单抗与环孢素; 若经过4-7 d的抢救治疗仍无效, 可考虑结肠切除术。此外, 托法替尼、维多珠单抗等药物也开始应用于ASUC的治疗。

文献来源: 李俊蓉, 凌方梅, 陈翌东, 徐明畅, 朱良如. 急性重症溃疡性结肠炎的治疗. 世界华人消化杂志 2021; 29(2): 87-92

URL: <https://www.wjgnet.com/1009-3079/full/v29/i2/87.htm>

DOI: <https://dx.doi.org/10.11569/wjcd.v29.i2.87>

0 引言

溃疡性结肠炎(ulcerative colitis, UC)属炎症性肠病(inflammatory bowel disease, IBD)范畴, 临床表现主要包括黏液脓血便、里急后重、腹痛等。其特点是疾病缓解期和活动期交替发作, 约20%的患者一生中会出现至少一次急性发作^[1,2], 即急性重症溃疡性结肠炎(acute severe ulcerative colitis, ASUC)。

ASUC是一种可能危及生命的医疗紧急情况, 既往该病死亡率约为30%, 后由于静脉激素的应用及对激素非应答者进行及时的结肠切除术, 死亡率降低至5%, 并在随后的医学发展中不断下降^[3], 如今ASUC患者死亡率约为1%^[4]。目前ASUC的诊断参照改良Truelove&Witts标准^[5](表1), 涵盖大便频率、体温、心率、血红蛋白、血沉5大指标。具体为: 大便 ≥ 6 次/d, 加上体温 >37.8 °C、心率 >90 bpm、血沉 >30 mm/h、血红蛋白 <105 g/L中至少1条。满足以上条件即可诊断ASUC。

1 一般治疗

首先应停用非甾体抗炎药物、麻醉药物和抗胆碱能药物, 因其可能抑制肠道蠕动, 增加结肠扩张和中毒性巨结肠风险^[6,7]。ASUC患者肠道炎症严重, 通常腹泻频繁, 便血明显, 容易出现低钾血症、低蛋白血症及贫血, 故临床上应密切监测患者电解质、白蛋白及血红蛋白水平, 并注意补钾、增强营养支持, 必要时可输血以改善贫血^[8]。治疗时应尽量避免口服铁剂, 因可能加重肠道刺激。关于是否需要使用抗生素, 目前尚无证据支持在无感染性并发症发生的情况下使用抗生素^[9]。

ASUC患者需常规排除感染性结肠炎, 尤其是艰难梭状芽孢杆菌(*clostridium difficile*, CDI)及巨细胞病毒(cytomegalovirus, CMV)等感染, 因合并上述病原体感染是ASUC患者对激素不敏感及需要接受抢救治疗的危险因素^[8]。研究表明, ASUC患者合并CMV结肠炎可能性

更高, 特别是近期接受过高剂量激素治疗及入院时梅奥评分^[10](表2)较高的患者。此外, 有学者报道^[11]对静脉激素反应欠佳的患者接受结肠镜检查, 第一次结肠镜检查CMV阴性的患者中, 42.9%的患者第二次检查CMV转阳, 故对高剂量激素治疗后反应欠佳的患者, 更应考虑CMV感染的可能性。

2 药物治疗

2.1 一线治疗(激素)

作为ASUC的首选治疗药物, 激素主要通过作用于细胞核中的糖皮质激素受体相互作用调节机体免疫反应, 并可干扰黏附分子的表达, 阻止炎症细胞向胃肠道的迁移, 抑制促炎细胞因子如白细胞介素(interleukin, IL)-1、IL-6和肿瘤坏死因子(tumor necrosis factor, TNF)等的产生^[12]。患者入院后可静脉滴注甲强龙60 mg/d, 或氢化可的松400 mg/d, 增加剂量并不会增加疗效, 但降低剂量疗效会减弱。激素的治疗效果最好在第三天进行评估, 若第三天无充分临床反应, 则进行4-7 d的抢救治疗, 若仍无反应, 可考虑结肠切除术。静脉激素无充分临床反应的定义如下: (1)治疗第3天, 大便频率 >8 次/d或大便频率为3-8次/d伴CRP >45 mg/L; (2)治疗第7天, 大便频率 >3 次/d或仍可见血便。经谨慎的疗效评估, ASUC患者的结肠切除率可控制在30%以内, 死亡率低于1%^[8,13]。

激素将ASUC的死亡率从将近30%降至1%以内^[14]。但研究表明, 约30%的患者对静脉激素治疗无临床反应^[15], 故早期识别激素难治性ASUC患者对于及时转换治疗方案及改善预后至关重要。据文献报道^[16], 激素治疗后第3天C反应蛋白/白蛋白比值(c-reactive protein/albumin ratio, CAR)升高是激素难治性ASUC的早期预测因子, 最佳CAR为0.85(敏感度70%, 特异度76%)。对该类患者, 在血白蛋白水平显著下降之前, 早期及时接受英夫利昔单抗(Infliximab, IFX)或环孢素抢救治疗可能更有效。若治疗第3天患者水样便 <6 次/d、第5天部分梅奥评分 <2 分, 则患者临床复发的可能性较小^[17]。此外, 血清降钙素原可作为ASUC患者静脉激素治疗失败的早期非侵入性预测标志物, 联合粪钙卫蛋白可进一步提高其预测价值^[18]。故而临床医生需对使用激素治疗的ASUC患者在适当的时间窗内对病情进行二次评估, 谨慎考量抢救治疗的必要性。

2.2 二线治疗(抢救治疗) 抢救治疗的目的是促进疾病缓解, 避免激素治疗无反应的患者最终接受结肠切除术。研究表明, 抢救治疗在2/3的激素难治性ASUC患者中是有效的^[15]。目前使用最广泛的抢救治疗药物是IFX和环孢素, 两种药物均可明显改善患者预后。

2.2.1 英夫利昔单抗: IFX是一种以TNF α 为靶点的嵌合

表 1 所示为改良Truelove和Witts疾病严重程度分型标准^[5]

严重程度	排便次数(次/d)	血便	体温(°C)	心率(bpm)	血沉(mm/h)	血红蛋白(g/L)
轻度	< 4	轻或无	正常	正常	<20	正常
重度	≥6	明显	> 37.8	> 90	> 30	< 105

表 2 梅奥评分内容^[10]

评估指标	排便频率(次/d)	便血	内镜发现	医师对疾病活动程度的评估
0分	正常	未见便血	正常或无活动性病变	正常
1分	比正常排便次数增加1-2次/d	不到一半时间出现便血	轻度病变(红斑、血管纹理减少、轻度质脆)	轻度病情
2分	比正常排便次数增加3-4次/d	大部分时间出现便血	中度病变(明显红斑、血管纹理缺乏、质脆、糜烂)	中度病情
3分	比正常排便次数增加>4次/d	一直存在出血	重度病变(自发性出血、溃疡形成)	重度病情

总分之和 < 2分症状缓解; 3-5分轻度活动; 6-10分中度活动; 11-12分重度活动。

免疫球蛋白单克隆抗体, 目前广泛用于治疗IBD。IFX基于体重给药, 半衰期约为14 d, 其药代动力学存在较大的个体间差异^[19]。研究表明^[20], IFX对激素难治性ASUC总体疗效令人满意, 短期及长期应答率分别为73%和60%^[21]; 短期及长期结肠切除率分别为0-50%和35%-50%。死亡率0-2%^[6]。

IFX标准给药方案为第0、2、6星期, 后每8 wk接受1次治疗, 剂量为5 mg/kg。近年有文献报道^[22]标准治疗方案对中重度活动性UC有效, 但对ASUC可能不同。由于IFX的半衰期在ASUC患者中更短, 故推测可能需要更频繁或更高剂量以产生治疗效果。因此对标准给药方式疗效欠佳的患者, 有文献提出^[23]强化诱导治疗方案(更短的给药间隔和/或更高给药剂量)可减少早期结肠切除术的需要, 对炎症负荷重、低白蛋白血症的患者予以10 mg/kg剂量给药可降低并发症发生率、短期及长期结肠切除率^[24], 但两种治疗方案疗效的比较目前尚无统一结论。也有相关文献报道^[25,26], 强化诱导方案与标准治疗方案疗效无明显差异。鉴于上述争议, 建议实际工作中结合患者意愿、经济状况及医师临床经验制定个体化给药方案。

研究发现, C反应蛋白(c-reactive protein, CRP)、白蛋白水平、粪钙卫蛋白、血清和粪便IFX浓度和部分梅奥评分对IFX疗效均有良好的预测能力。其中IFX经粪便失药是预后不良的独立危险因素, 经粪便丢失越多, 治疗第6星期临床缓解的可能性越低, 未来接受结肠切除术风险越高^[27]。接受IFX治疗的ASUC患者中, 需要接受结肠切除术的患者IFX的清除率更高: 当药物清除率≥0.627 L/d时, 6 mo内行结肠切除术的风险升高; 清除率<0.627 L/d的患者中, 超过90%患者在6 mo内避免

手术。增加清除率的因素包括白蛋白降低、CRP升高、体重增加、IFX抗体的存在和未使用免疫抑制剂^[28]。此外, 近年来发现腹部CT测定的肌少症是ASUC患者需要抢救治疗的一个新的预测因子^[29]。

2.2.2 环孢素: 作为第一个被用于治疗激素难治性ASUC的抢救治疗药物^[30], 环孢素是一种钙调磷酸酶抑制剂, 主要通过抑制T淋巴细胞活化过程中IL-2、IL-4、TNF-α等基因的转录, 抑制细胞因子合成等减轻肠道炎症^[31]; 也有其他研究表明^[32]环孢素的治疗机制可能与其对中性粒细胞的抑制作用有关。据统计^[6], 环孢素短期及长期应答率分别为40%-54%和42%-50%, 短期及长期结肠切除率分别为26%-47%和36%-58%, 死亡率为0-5%。

环孢素作为抢救药物时通常以静脉注射方式给药。与4 mg/(kg·d)相比, 给药剂量为2 mg/(kg·d)时不良反应更小, 且两者之间结肠切除率无明显差异^[33], 故通常使用2 mg/(kg·d)作为初始治疗剂量。环孢素的不良反应主要为肾毒性、癫痫发作、电解质异常、高血压和严重感染^[34]。环孢素治疗效果与血药浓度相关^[32], 其血药浓度为150-250 ng/mL时可达到良好的治疗效果^[35], 因此用药期间应定期监测血药浓度并复查相关生化指标以避免不良反应的发生。

目前多数文献^[36-39]认为环孢素与IFX疗效无明显差异, 但也有部分文献^[31]认为IFX在某些方面表现优于环孢素。如有研究报道^[30]接受治疗3 mo, 环孢素组结肠切除率为63%, 而IFX组为21%($P = 0.0094$); 到12 mo时分别为68% vs 37%($P = 0.06$)。故该研究认为^[30]IFX治疗在短期内(3 mo)相较于环孢素可显著降低结肠切除率, 但长期(12 mo)并不明显。在其他研究中^[40], IFX治疗与环孢素

治疗相比, 前者住院时间明显缩短(4 d vs 11 d, $P<0.01$), 治疗3年内前者结肠切除可能性更低, 第4年开始两者结肠切除率无明显差异^[41].

2.2.3 他克莫司: 他克莫司和环孢素一样同属于钙调磷酸酶抑制剂, 通过抑制T淋巴细胞的活化和增殖发挥作用. 他克莫司一般通过口服给药, 在肠道的吸收优于环孢素^[40]. 他克莫司治疗短期(1 mo)临床应答率为73%, 第1 mo和12 mo的无结肠切除生存率分别为86%和69%, 且并未增加严重不良事件的风险^[42].

2.3 三线治疗(序贯治疗) 抢救治疗失败后, 还可尝试序贯治疗以避免患者最终接受结肠切除术. 所谓序贯治疗即对环孢素治疗失败的患者在结肠切除术之前使用IFX进行治疗或反之对IFX治疗失败的患者进行环孢素抢救治疗. 有数据表明^[43]序贯治疗在3 mo和12 mo避免结肠切除术的可能性分别为61%和41%. 对于激素及IFX治疗失败的患者, 环孢素治疗可使60%的患者在2 wk内达到临床缓解^[44]. 因此序贯治疗在一定程度上为本应接受结肠切除术的患者提供了一种额外的选择, 但目前尚无充分证据支持在抢救治疗失败后进行序贯治疗^[8]. 由于手术时机的延迟会增加患者死亡率及并发症发生的风险, 故临床上需充分权衡序贯治疗的获益与风险并谨慎地做出决定. 2017年欧洲克罗恩病和结肠炎协会共识中指出, 经过患者、消化内科及肛肠外科医师讨论后, 可以考虑在有条件的三级医院采取三线治疗方案^[9].

3 手术治疗

对于部分患者来说, 尽管接受了激素、IFX、环孢素等药物治疗, 最终也需要行结肠切除术. Subramaniam等^[21]指出, 即使患者在接受IFX治疗后3 mo内出现临床应答, 在第30 mo时仍有12%的患者需要行结肠切除术. 目前认为7 d作为药物抢救治疗时间上限是合理的, 这为激素难治性ASUC患者在接受手术前使用二线药物治疗留出了时间^[45]. 同样, 临床、生化、影像学等特征在一定程度上提示了接受结肠切除术的风险高低. 如高龄、男性患者更可能需要行结肠切除术, 且3 mo、12 mo的死亡率更高^[2]; 既往使用过抗TNF α 类药物或硫唑嘌呤、存在CDI感染的患者行结肠切除术的风险更高^[46]. 在相关研究中^[47], 粪钙卫蛋白在需要进行结肠切除术的患者中显著升高. CRP ≥ 60 mg/L, 血红蛋白 ≤ 90 g/L, 白蛋白 < 30 g/L的患者3 mo内结肠切除风险明显升高^[39]. 经腹部平片检测出的小肠扩张也与结肠切除有关^[47]. 临床上结合上述多项指标综合评估可以更好地预测患者疾病发展及转归情况.

4 其他治疗

目前一些其他治疗药物, 包括托法替尼、维多珠单抗等也开始应用于ASUC的治疗, 如有研究报道^[48]4例ASUC患者接受托法替尼治疗后临床症状迅速改善, CRP下降明显. 此外, 肠道菌群在多种疾病中所起的作用近年来引起了人们的关注, IBD患者中发现了肠道微生物失调的现象, 因此粪菌移植也为ASUC的治疗提供了一种选择^[49]. 一些新兴药物包括抗整合素单抗、抗IL-23类药物、阿达木单抗也开始应用于对中重度活动性UC的研究中^[16], 有可能对ASUC起到治疗效果.

5 结论

综上所述, 对于ASUC的治疗, 目前激素仍是首选药物, 治疗3 d后应及时评估疗效; 激素难治性患者应及时转换为抢救治疗方案, 常用药物包括IFX与环孢素, 多数文献认为两者疗效无明显差异, 均表现出良好的疗效. 若经过4-7 d抢救治疗仍无效, 可考虑结肠切除术. 目前除在有条件的三级医院外, 一般不推荐进行序贯治疗. ASUC的治疗目标并非不惜一切代价保留肠道, 相反, 它的目标应该是尽量降低并发症的发生和死亡率, 同时最大限度地提高患者的生活质量, 临床上需要消化内科、胃肠外科、营养科等多个科室的协作, 及时掌握转换治疗的时机, 做出适当的治疗决策.

6 参考文献

- Edwards FC, Truelove SC. The course and prognosis of ulcerative colitis. *Gut* 1963; 4: 299-315 [PMID: 14084741 DOI: 10.1136/gut.4.4.299]
- Hindryckx P, Jairath V, D'Haens G. Acute severe ulcerative colitis: from pathophysiology to clinical management. *Nat Rev Gastroenterol Hepatol* 2016; 13: 654-664 [PMID: 27580687 DOI: 10.1038/nrgastro.2016.116]
- Dong C, Metzger M, Holsbø E, Perduca V, Carbonnel F. Systematic review with meta-analysis: mortality in acute severe ulcerative colitis. *Aliment Pharmacol Ther* 2020; 51: 8-33 [PMID: 31821584 DOI: 10.1111/apt.15592]
- Turner D, Walsh CM, Steinhart AH, Griffiths AM. Response to corticosteroids in severe ulcerative colitis: a systematic review of the literature and a meta-regression. *Clin Gastroenterol Hepatol* 2007; 5: 103-110 [PMID: 17142106 DOI: 10.1016/j.cgh.2006.09.033]
- Truelove SC, Witts LJ. Cortisone in ulcerative colitis; final report on a therapeutic trial. *Br Med J* 1955; 2: 1041-1048 [PMID: 13260656 DOI: 10.1136/bmj.2.4947.1041]
- Seah D, De Cruz P. Review article: the practical management of acute severe ulcerative colitis. *Aliment Pharmacol Ther* 2016; 43: 482-513 [PMID: 26725569 DOI: 10.1111/apt.13491]
- 刘爱玲, 吕红, 钱家鸣. 急性重症溃疡性结肠炎的诊治. *胃肠病学* 2019; 24: 321-325 [DOI: 10.3969/j.issn.1008-7125.2019.06.001]
- Gisbert JP, Chaparro M. Acute severe ulcerative colitis: State of the art treatment. *Best Pract Res Clin Gastroenterol* 2018; 32-33: 59-69 [PMID: 30060940 DOI: 10.1016/j.bpg.2018.05.007]
- Harbord M, Eliakim R, Bettenworth D, Karmiris K, Katsanos

- K, Kopylov U, Kucharzik T, Molnár T, Raine T, Sebastian S, de Sousa HT, Dignass A, Carbonnel F; European Crohn's and Colitis Organisation [ECCO]. Third European Evidence-based Consensus on Diagnosis and Management of Ulcerative Colitis. Part 2: Current Management. *J Crohns Colitis* 2017; 11: 769-784 [PMID: 28513805 DOI: 10.1093/ecco-jcc/jjx009]
- 10 Maaser C, Sturm A, Vavricka SR, Kucharzik T, Fiorino G, Annesse V, Calabrese E, Baumgart DC, Bettenworth D, Borralho Nunes P, Burisch J, Castiglione F, Eliakim R, Ellul P, González-Lama Y, Gordon H, Halligan S, Katsanos K, Kopylov U, Kotze PG, Krustinš E, Laghi A, Limdi JK, Rieder F, Rimola J, Taylor SA, Tolan D, van Rheenen P, Verstockt B, Stoker J; European Crohn's and Colitis Organisation [ECCO] and the European Society of Gastrointestinal and Abdominal Radiology [ESGAR]. ECCO-ESGAR Guideline for Diagnostic Assessment in IBD Part 1: Initial diagnosis, monitoring of known IBD, detection of complications. *J Crohns Colitis* 2019; 13: 144-164 [PMID: 30137275 DOI: 10.1093/ecco-jcc/jjy113]
 - 11 Lee HS, Park SH, Kim SH, Kim J, Choi J, Lee HJ, Kim WS, Lee JM, Kwak MS, Hwang SW, Yang DH, Kim KJ, Ye BD, Byeon JS, Myung SJ, Yoon YS, Yu CS, Kim JH, Yang SK. Risk Factors and Clinical Outcomes Associated with Cytomegalovirus Colitis in Patients with Acute Severe Ulcerative Colitis. *Inflamm Bowel Dis* 2016; 22: 912-918 [PMID: 26829410 DOI: 10.1097/MIB.0000000000000675]
 - 12 Chang S, Hanauer S. Optimizing pharmacologic management of inflammatory bowel disease. *Expert Rev Clin Pharmacol* 2017; 10: 595-607 [PMID: 28475384 DOI: 10.1080/17512433.2017.1318062]
 - 13 Chen JH, Andrews JM, Kariyawasam V, Moran N, Gounder P, Collins G, Walsh AJ, Connor S, Lee TW, Koh CE, Chang J, Paramsothy S, Tattersall S, Lemberg DA, Radford-Smith G, Lawrance IC, McLachlan A, Moore GT, Corte C, Katelaris P, Leong RW; IBD Sydney Organisation and the Australian Inflammatory Bowel Diseases Consensus Working Group. Review article: acute severe ulcerative colitis - evidence-based consensus statements. *Aliment Pharmacol Ther* 2016; 44: 127-144 [PMID: 27226344 DOI: 10.1111/apt.13670]
 - 14 Jakobovits SL, Travis SP. Management of acute severe colitis. *Br Med Bull* 2005; 75-76: 131-144 [PMID: 16847166 DOI: 10.1093/bmb/ldl001]
 - 15 Miehsler W, Reinisch W, Valic E, Osterode W, Tillinger W, Feichtenschlager T, Grisar J, Machold K, Scholz S, Vogelsang H, Novacek G. Is inflammatory bowel disease an independent and disease specific risk factor for thromboembolism? *Gut* 2004; 53: 542-548 [PMID: 15016749 DOI: 10.1136/gut.2003.025411]
 - 16 Gibson DJ, Hartery K, Doherty J, Nolan J, Keegan D, Byrne K, Martin ST, Buckley M, Sheridan J, Horgan G, Mulcahy HE, Cullen G, Doherty GA. CRP/Albumin Ratio: An Early Predictor of Steroid Responsiveness in Acute Severe Ulcerative Colitis. *J Clin Gastroenterol* 2018; 52: e48-e52 [PMID: 28737646 DOI: 10.1097/MCG.0000000000000884]
 - 17 Salameh R, Kirchesner J, Allez M, Carbonnel F, Meyer A, Gornet JM, Beaugerie L, Amiot A. Long-term outcome of patients with acute severe ulcerative colitis responding to intravenous steroids. *Aliment Pharmacol Ther* 2020; 51: 1096-1104 [PMID: 32342994 DOI: 10.1111/apt.15751]
 - 18 Goligher JC, de Dombal FT, Graham NG, Watkinson G. Early surgery in the management of severe ulcerative colitis. *Br Med J* 1967; 3: 193-195 [PMID: 6028463 DOI: 10.1136/bmj.3.5559.193]
 - 19 Hemperly A, Vande Casteele N. Clinical Pharmacokinetics and Pharmacodynamics of Infliximab in the Treatment of Inflammatory Bowel Disease. *Clin Pharmacokinet* 2018; 57: 929-942 [PMID: 29330783 DOI: 10.1007/s40262-017-0627-0]
 - 20 Costello SP, Ghaly S, Beswick L, Pudipeddi A, Agarwal A, Sechi A, O'Connor S, Connor SJ, Sparrow MP, Bampton P, Walsh AJ, Andrews JM; Australian Inflammatory Bowel Disease Association (AIBDA). Compassionate access anti-tumour necrosis factor- α therapy for ulcerative colitis in Australia: the benefits to patients. *Intern Med J* 2015; 45: 659-666 [PMID: 25732268 DOI: 10.1111/imj.12732]
 - 21 Subramaniam K, Richardson A, Dodd J, Platten J, Shadbolt B, Pavli P. Early predictors of colectomy and long-term maintenance of remission in ulcerative colitis patients treated using anti-tumour necrosis factor therapy. *Intern Med J* 2014; 44: 464-470 [PMID: 24612209 DOI: 10.1111/imj.12397]
 - 22 Rosen MJ, Minar P, Vinks AA. Review article: applying pharmacokinetics to optimise dosing of anti-TNF biologics in acute severe ulcerative colitis. *Aliment Pharmacol Ther* 2015; 41: 1094-1103 [PMID: 25809869 DOI: 10.1111/apt.13175]
 - 23 Govani SM, Berinstein JA, Waljee AK, Stidham RW, Higgins PDR, Hardiman KM. Use of Accelerated Induction Strategy of Infliximab for Ulcerative Colitis in Hospitalized Patients at a Tertiary Care Center. *Dig Dis Sci* 2020; 65: 1800-1805 [PMID: 31748921 DOI: 10.1007/s10620-019-05957-0]
 - 24 Shah SC, Naymagon S, Panchal HJ, Sands BE, Cohen BL, Dubinsky MC. Accelerated Infliximab Dosing Increases 30-Day Colectomy in Hospitalized Ulcerative Colitis Patients: A Propensity Score Analysis. *Inflamm Bowel Dis* 2018; 24: 651-659 [PMID: 29462380 DOI: 10.1093/ibd/izx039]
 - 25 Sebastian S, Myers S, Nadir S, Subramanian S. Systematic Review: Efficacy and Safety of Accelerated Induction Regimes in Infliximab Rescue Therapy for Hospitalized Patients with Acute Severe Colitis. *Dig Dis Sci* 2019; 64: 1119-1128 [PMID: 30535888 DOI: 10.1007/s10620-018-5407-7]
 - 26 Nalagatla N, Falloon K, Tran G, Borren NZ, Avalos D, Luther J, Colizzo F, Garber J, Khalili H, Melia J, Bohm M, Ananthakrishnan AN. Effect of Accelerated Infliximab Induction on Short- and Long-term Outcomes of Acute Severe Ulcerative Colitis: A Retrospective Multicenter Study and Meta-analysis. *Clin Gastroenterol Hepatol* 2019; 17: 502-509.e1 [PMID: 29944926 DOI: 10.1016/j.cgh.2018.06.031]
 - 27 Beswick L, Rosella O, Rosella G, Headon B, Sparrow MP, Gibson PR, van Langenberg DR. Exploration of Predictive Biomarkers of Early Infliximab Response in Acute Severe Colitis: A Prospective Pilot Study. *J Crohns Colitis* 2018; 12: 289-297 [PMID: 29121178 DOI: 10.1093/ecco-jcc/jjx146]
 - 28 Battat R, Hemperly A, Truong S, Whitnir N, Boland BS, Dulai PS, Holmer AK, Nguyen NH, Singh S, Vande Casteele N, Sandborn WJ. Baseline Clearance of Infliximab Is Associated With Requirement for Colectomy in Patients With Acute Severe Ulcerative Colitis. *Clin Gastroenterol Hepatol* 2020 [PMID: 32348905 DOI: 10.1016/j.cgh.2020.03.072]
 - 29 Cushing KC, Kordbacheh H, Gee MS, Kambadakone A, Ananthakrishnan AN. Sarcopenia is a Novel Predictor of the Need for Rescue Therapy in Hospitalized Ulcerative Colitis Patients. *J Crohns Colitis* 2018; 12: 1036-1041 [PMID: 29762697 DOI: 10.1093/ecco-jcc/jjy064]
 - 30 Szemes K, Soós A, Hegyi P, Farkas N, Erős A, Erősi B, Mezősi E, Szakács Z, Márta K, Sarlós P. Comparable Long-Term Outcomes of Cyclosporine and Infliximab in Patients With Steroid-Refractory Acute Severe Ulcerative Colitis: A Meta-Analysis. *Front Med (Lausanne)* 2019; 6: 338 [PMID: 32039218 DOI: 10.3389/fmed.2019.00338]
 - 31 Dean KE, Hikaka J, Huakau JT, Walmsley RS. Infliximab or cyclosporine for acute severe ulcerative colitis: a retrospective analysis. *J Gastroenterol Hepatol* 2012; 27: 487-492 [PMID: 22098019 DOI: 10.1111/j.1440-1746.2011.06958.x]
 - 32 Ina K, Kusugami K, Shimada M, Tsuzuki T, Nishio Y, Binion DG, Imada A, Ando T. Suppressive effects of cyclosporine A on neutrophils and T cells may be related to therapeutic benefits in patients with steroid-resistant ulcerative colitis. *Inflamm Bowel Dis* 2002; 8: 1-9 [PMID: 11837932 DOI: 10.1097/00054725-

- 200201000-00001]
- 33 Kumar NS, Khosla R, Makharia GK. Cyclosporine in steroid refractory acute severe colitis. *Trop Gastroenterol* 2014; 35 Suppl 1: S21-S28 [PMID: 25735123 DOI: 10.7869/tg.179]
- 34 Dulai PS, Jairath V. Acute severe ulcerative colitis: latest evidence and therapeutic implications. *Ther Adv Chronic Dis* 2018; 9: 65-72 [PMID: 29387331 DOI: 10.1177/2040622317742095]
- 35 Pham CQ, Efros CB, Berardi RR. Cyclosporine for severe ulcerative colitis. *Ann Pharmacother* 2006; 40: 96-101 [PMID: 16368919 DOI: 10.1345/aph.1G374]
- 36 Ordás I, Domènech E, Mañosa M, García-Sánchez V, Iglesias-Flores E, Peñalva M, Cañas-Ventura A, Merino O, Fernández-Bañares F, Gomollón F, Vera M, Gutiérrez A, García-Planella E, Chaparro M, Aguas M, Gento E, Muñoz F, Aguirresarobe M, Muñoz C, Fernández L, Calvet X, Jiménez CE, Montoro MA, Mir A, De Castro ML, García-Sepulcre MF, Bermejo F, Panés J, Esteve M. Long-Term Efficacy and Safety of Cyclosporine in a Cohort of Steroid-Refractory Acute Severe Ulcerative Colitis Patients from the ENEIDA Registry (1989-2013): A Nationwide Multicenter Study. *Am J Gastroenterol* 2017; 112: 1709-1718 [PMID: 28675163 DOI: 10.1038/ajg.2017.180]
- 37 Laharie D, Bourreille A, Branche J, Allez M, Bouhnik Y, Filippi J, Zerbib F, Savoye G, Vuitton L, Moreau J, Amiot A, Cosnes J, Ricart E, Dewit O, Lopez-Sanroman A, Fumery M, Carbonnel F, Bommelaer G, Coffin B, Roblin X, van Assche G, Esteve M, Farkkila M, Gisbert JP, Marteau P, Nahon S, de Vos M, Lambert J, Mary JY, Louis E; Groupe d'Etudes Thérapeutiques des Affections Inflammatoires Digestives. Long-term outcome of patients with steroid-refractory acute severe UC treated with ciclosporin or infliximab. *Gut* 2018; 67: 237-243 [PMID: 28053054 DOI: 10.1136/gutjnl-2016-313060]
- 38 Wu D, Yang Z, Zhao C, Yao L. Infliximab versus cyclosporine for severe ulcerative colitis refractory to steroids: A protocol for systematic review and meta-analysis. *Medicine (Baltimore)* 2018; 97: e12657 [PMID: 30313056 DOI: 10.1097/MD.00000000000012657]
- 39 Chao CY, Al Khoury A, Aruljothy A, Restellini S, Wyse J, Afif W, Bitton A, Lakatos PL, Bessissow T. High-Dose Infliximab Rescue Therapy for Hospitalized Acute Severe Ulcerative Colitis Does Not Improve Colectomy-Free Survival. *Dig Dis Sci* 2019; 64: 518-523 [PMID: 30446928 DOI: 10.1007/s10620-018-5358-z]
- 40 Löwenberg M, Duijvis NW, Ponsioen C, van den Brink GR, Fockens P, D'Haens GR. Length of hospital stay and associated hospital costs with infliximab versus cyclosporine in severe ulcerative colitis. *Eur J Gastroenterol Hepatol* 2014; 26: 1240-1246 [PMID: 25171024 DOI: 10.1097/MEG.0000000000000187]
- 41 Matsuoka K, Saito E, Fujii T, Takenaka K, Kimura M, Nagahori M, Ohtsuka K, Watanabe M. Tacrolimus for the Treatment of Ulcerative Colitis. *Intest Res* 2015; 13: 219-226 [PMID: 26130996 DOI: 10.5217/ir.2015.13.3.219]
- 42 Komaki Y, Komaki F, Ido A, Sakuraba A. Efficacy and Safety of Tacrolimus Therapy for Active Ulcerative Colitis: A Systematic Review and Meta-analysis. *J Crohns Colitis* 2016; 10: 484-494 [PMID: 26645641 DOI: 10.1093/ecco-jcc/jjv221]
- 43 Leblanc S, Allez M, Seksik P, Flourié B, Peeters H, Dupas JL, Bouguen G, Peyrin-Biroulet L, Duclos B, Bourreille A, Dewit O, Bouhnik Y, Michetti P, Chaussade S, Saussure P, Mary JY, Colombel JF, Lémann M; GETAID. Successive treatment with cyclosporine and infliximab in steroid-refractory ulcerative colitis. *Am J Gastroenterol* 2011; 106: 771-777 [PMID: 21386832 DOI: 10.1038/ajg.2011.62]
- 44 Weisshof R, Ollech JE, El Jurdi K, Yvellez OV, Cohen RD, Sakuraba A, Dalal S, Pekow J, Rubin DT. Ciclosporin Therapy After Infliximab Failure in Hospitalized Patients With Acute Severe Colitis is Effective and Safe. *J Crohns Colitis* 2019; 13: 1105-1110 [PMID: 30726894 DOI: 10.1093/ecco-jcc/jjz032]
- 45 Saha SK, Panwar R, Kumar A, Pal S, Ahuja V, Dash NR, Makharia G, Sahni P. Early colectomy in steroid-refractory acute severe ulcerative colitis improves operative outcome. *Int J Colorectal Dis* 2018; 33: 79-82 [PMID: 28920181 DOI: 10.1007/s00384-017-2903-8]
- 46 Le Baut G, Kirchgessner J, Amiot A, Lefevre JH, Chafai N, Landman C, Nion I, Bourrier A, Delattre C, Martineau C, Sokol H, Seksik P, Nguyen Y, Marion Y, Lebreton G, Carbonnel F, Viennot S, Beaugier L; Saint Antoine IBD Network. A Scoring System to Determine Patients' Risk of Colectomy Within 1 Year After Hospital Admission for Acute Severe Ulcerative Colitis. *Clin Gastroenterol Hepatol* 2020 [PMID: 31927106 DOI: 10.1016/j.cgh.2019.12.036]
- 47 Venthani NT, Kalla R, Kennedy NA, Satsangi J, Arnott ID. Predicting outcomes in acute severe ulcerative colitis. *Expert Rev Gastroenterol Hepatol* 2015; 9: 405-415 [PMID: 25494666 DOI: 10.1586/17474124.2015.992880]
- 48 Berinstein JA, Steiner CA, Regal RE, Allen JL, Kinnucan JAR, Stidham RW, Waljee AK, Bishu S, Aldrich LB, Higgins PDR. Efficacy of Induction Therapy With High-Intensity Tofacitinib in 4 Patients With Acute Severe Ulcerative Colitis. *Clin Gastroenterol Hepatol* 2019; 17: 988-990.e1 [PMID: 30458248 DOI: 10.1016/j.cgh.2018.11.022]
- 49 Verdon C, Bessissow T, Lakatos PL. Management of Acute Severe Colitis in the Era of Biologicals and Small Molecules. *J Clin Med* 2019; 8: [PMID: 31817972 DOI: 10.3390/jcm8122169]

科学编辑: 张砚梁 制作编辑: 张砚梁





Published by **Baishideng Publishing Group Inc**
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ISSN 1009-3079

