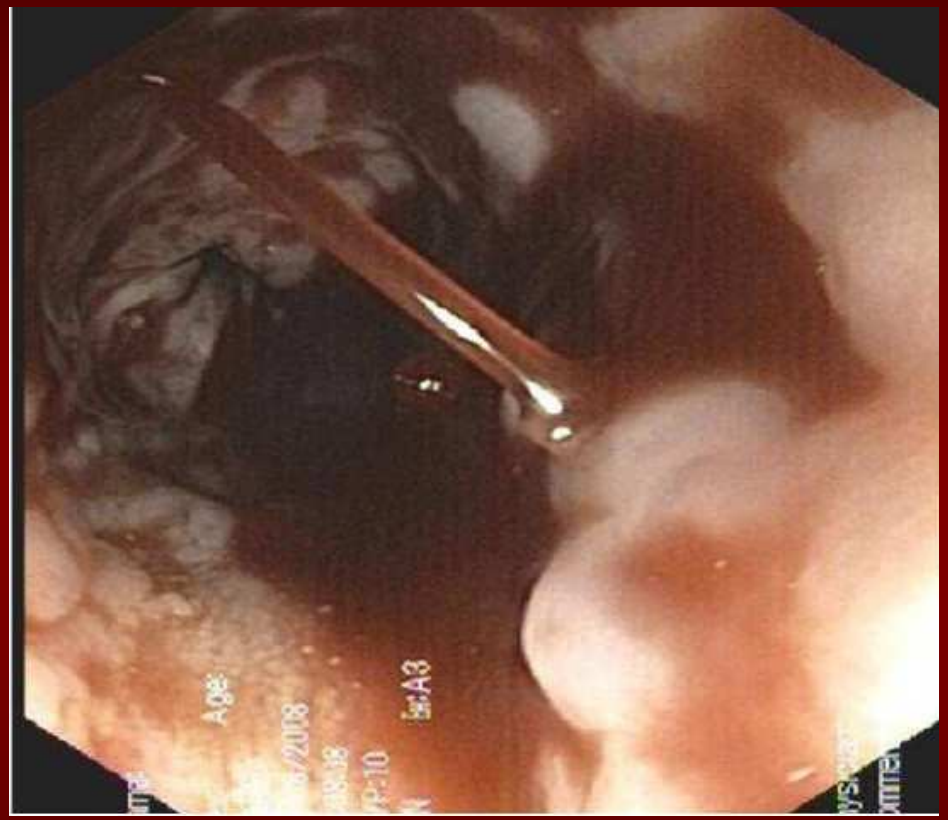
Stratificazione del Rischio Emorragico in Endoscopia Digestiva

SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA
Azienda Ospedaliero - Universitaria di Parma

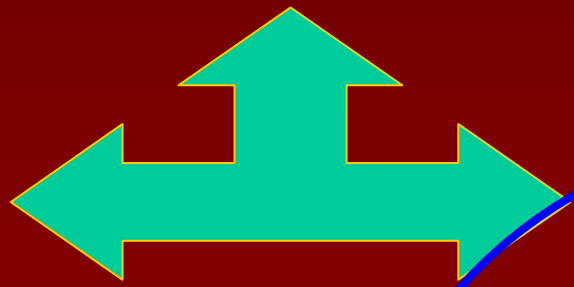


Parma, 18 Marzo 2014

Simone Bosi
U.O.C. Gastroenterologia ed Endoscopia Digestiva
Azienda Ospedaliero-Universitaria di Parma

DEFINIZIONI - 1

EMORRAGIE (Digestive)



Minori

- molto frequenti dopo manovre endoscopiche (microtraumatismi)
- subclinici, spesso inavvertiti o non riferiti dal paziente
- non ripercussioni cliniche né es. laboratorio
- non comportano provvedimenti sanitari

MAGGIORI

- < Hb almeno 2g/l e/o
- < Hct almeno 6 pti
- necessità ospedalizzazione
- allungamento degenza
- necessità interventi medici (trasfusioni, supporto emodinamico), endoscopici, angio-radiologici, chirurgici
- > tassi morbilità/mortalità

DEFINIZIONI - 2

Complicanze Emorragiche in Endoscopia Digestiva

1. **IMMEDIATE (INTRA-PROCEDURALI):** avvengono durante la manovra endoscopica, rapidamente riconoscibili, in genere dominabili mediante provvedimenti emostatici diretti

2. **TARDIVE (PERI-PROCEDURALI):** ***fino a 4 settimane*** dalla procedura, maggiormente insidiose (paziente già a domicilio, già ripresa eventuale terapia antitrombotica).

FATTORI DI RISCHIO EMORRAGICO IN ENDOSCOPIA DIGESTIVA

Correlati al PAZIENTE (COMORBILITA')

Intrinseci alla PROCEDURA ENDOSCOPICA

Connessi alla LESIONE sottoposta a procedura endoscopica

In relazione alla concomitante TERAPIA FARMACOLOGICA

Fattori di Rischio Emorragico correlati al PAZIENTE (Comorbilità)

Costituiscono riconosciuti fattori di rischio indipendente di aumentato rischio di complicanza emorragica in corso di endoscopia digestiva:

Età Avanzata
(Kim et al. Am J Gastroenterol 2006)

Ipertensione Arteriosa non controllata
(Watabe et al. Gastrointest Endosc 2006)

Insufficienza Renale Cronica
(Kim et al. Am J Gastroenterol 2006)

Cardiopatia Ischemica
(Sawhney et al. Endoscopy 2008)

Diabete Mellito
(Kim et al. Am J Gastroenterol 2006)

BPCO
(Sawhney et al. Endoscopy 2008)

Trombocito-penie/patie
Coagulopatie congenite/acquisite

ORIGINAL ARTICLE: Clinical Endoscopy

Risk assessment for delayed hemorrhagic complication of colonic polypectomy: polyp-related factors and patient-related factors CME

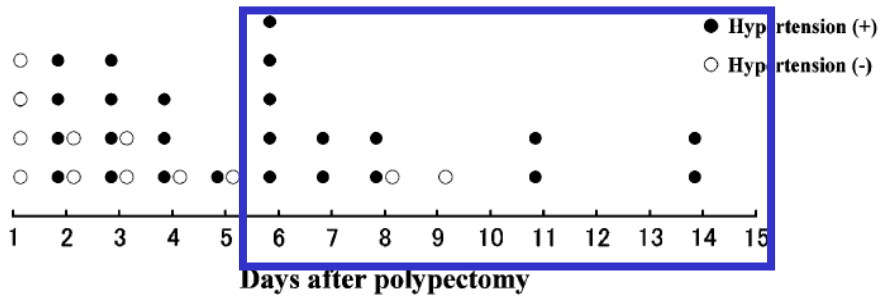
Hirotsugu Watabe, MD, Yutaka Yamaji, MD, Makoto Okamoto, MD, Shintaro Kondo, MD, Miki Ohta, MD, Tsuneo Ikenoue, MD, Jun Kato, MD, Goichi Togo, MD, Masayuki Matsumura, MD, Haruhiko Yoshida, MD, Takao Kawabe, MD, Masao Omata, MD

Tokyo, Japan

TABLE 3. Multivariate analysis of patient-related factors associated with postpolypectomy hemorrhage

	Cases (n = 37)	Controls (n = 74)	*P* value	Adjusted odds ratio (95% CI)
Male/female ratio	34/3	68/6	> .99	
Age (y)	61.4 ± 7.3	60.7 ± 6.6	.65	
Platelet counts (/μL)	242,000 ± 68,000	243,000 ± 65,000	.98	
Alcohol (%)	62	49		1.6 (0.5-4.7)
Smoking (%)	46	50		0.7 (0.2-1.8)
Hypertension (%)*	68	28		5.6 (1.8-17.2)
Diabetes mellitus (%)	32	18		1.5 (0.5-4.3)
Hyperlipidemia (%)	27	23		0.6 (0.2-1.9)

*The presence of hypertension was a significant risk factor for hemorrhage (*P* = .001).



Gastrointestinal Endoscopy 2006

Rischio Emorragico correlato alla PROCEDURA ENDOSCOPICA

Procedure Endoscopiche a

BASSO RISCHIO (<1%)

emorragico

Esofagogastroduodenoscopia (EGDS)

Colonscopia (*)

Enteroscopia

Videocapsula

Stenting bilio-pancreatici senza sfinterotomia

Ecoendoscopia (EUS) Diagnostica

con/senza BIOPSIE!!

Sieg A et al. Gastrointest Endosc 2000

Procedure Endoscopiche ad

ALTO RISCHIO (>1%)

emorragico

High risk of bleeding (≥1%)	
Polypectomy	
Gastric	7.2% (27)
Duodenal/ampullary	
1–3 cm	4.5% (28)
>3 cm	10.3% (28)
Colonic	0.7–3.3% (24,29,30)
Endoscopic mucosal resection	22%[b] (31)
Biliary sphincterotomy	2.0–3.2% (32,33)
Pneumatic/balloon dilation in achalasia	1.7%[c] (34)
Esophageal stenting	0.5–5.3% (36–38)
PEG placement	2.5% (39)
Endosonography with FNA	1.3–6%[d] (40–42)
Laser ablation and coagulation	1.1% (43)
Variceal sclerotherapy	4–25.4% (44,45)
Variceal band ligation	2.4–5.7%[e] (45,46)
Thermal ablation and coagulation	5% (47)

Kwok et al. American Journal of Gastroenterology 2009

Colonscopia-1
(considerazioni)

- **Esame Diagnostico/Operativo e conseguente categoria di rischio emorragico (BASSO/ALTO) in relazione alla presenza di POLIPI**
- **Preparazione Intestinale**
- **Sedazione Farmacologica**
- **SCREENING CANCRO COLON-RETTO (Criteri Qualità)**
- **Spesa Sanitaria per esami ripetuti/paziente**

Colonscopia-2

Stratificazione Rischio Emorragico in relazione allo Scenario Clinico

Basso Rischio

Conferma/esclusione/stadiazione di patologie a carattere infiammatorio (malattie infiammatorie croniche intestinali, malattia diverticolare, colite ischemica, studio nell'ambito di diarree acute/croniche).

Sospetto clinico o radiologico di neoplasia colorettale

Follow up endoscopico nel colon operato

Alto Rischio

Colonscopia sulla base di positività nella ricerca del sangue occulto fecale in pazienti di età compresa fra i 50 e i 70 anni (popolazione coinvolta dai programmi di **screening** per il cancro colorettale, ***40% POLIPI***).

Colonscopia con fini elettivamente operativi (lesioni già note da trattare endoscopicamente).

Rischio Emorragico correlato alla LESIONE trattata e alla TECNICA ENDOSCOPICA utilizzata

es. **POLIPECTOMIA ENDOSCOPICA del COLON**

Dimensione della lesione (polipo)

Lesione Unica/Lesioni Multiple

Caratteristiche Morfologiche (Sessile/Peduncolato)

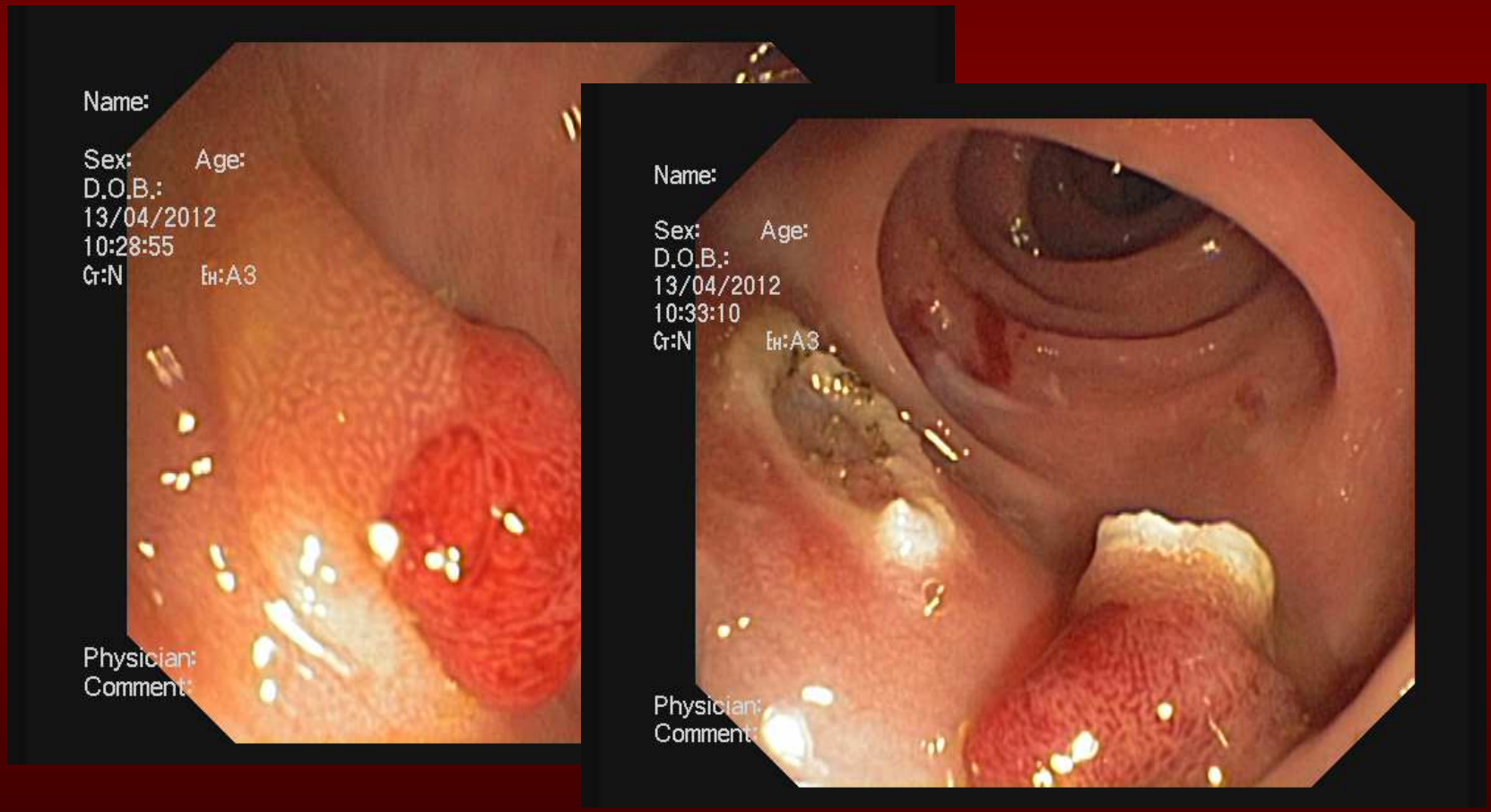
Sede della Lesione (retto/colon sinistro/colon destro)

Tecnica Asportazione Endoscopica

Utilizzo Metodiche di Profilassi Sanguinamento (clips, altro..)

(Sawhney et al. Endoscopy 2008)

Polipo - 1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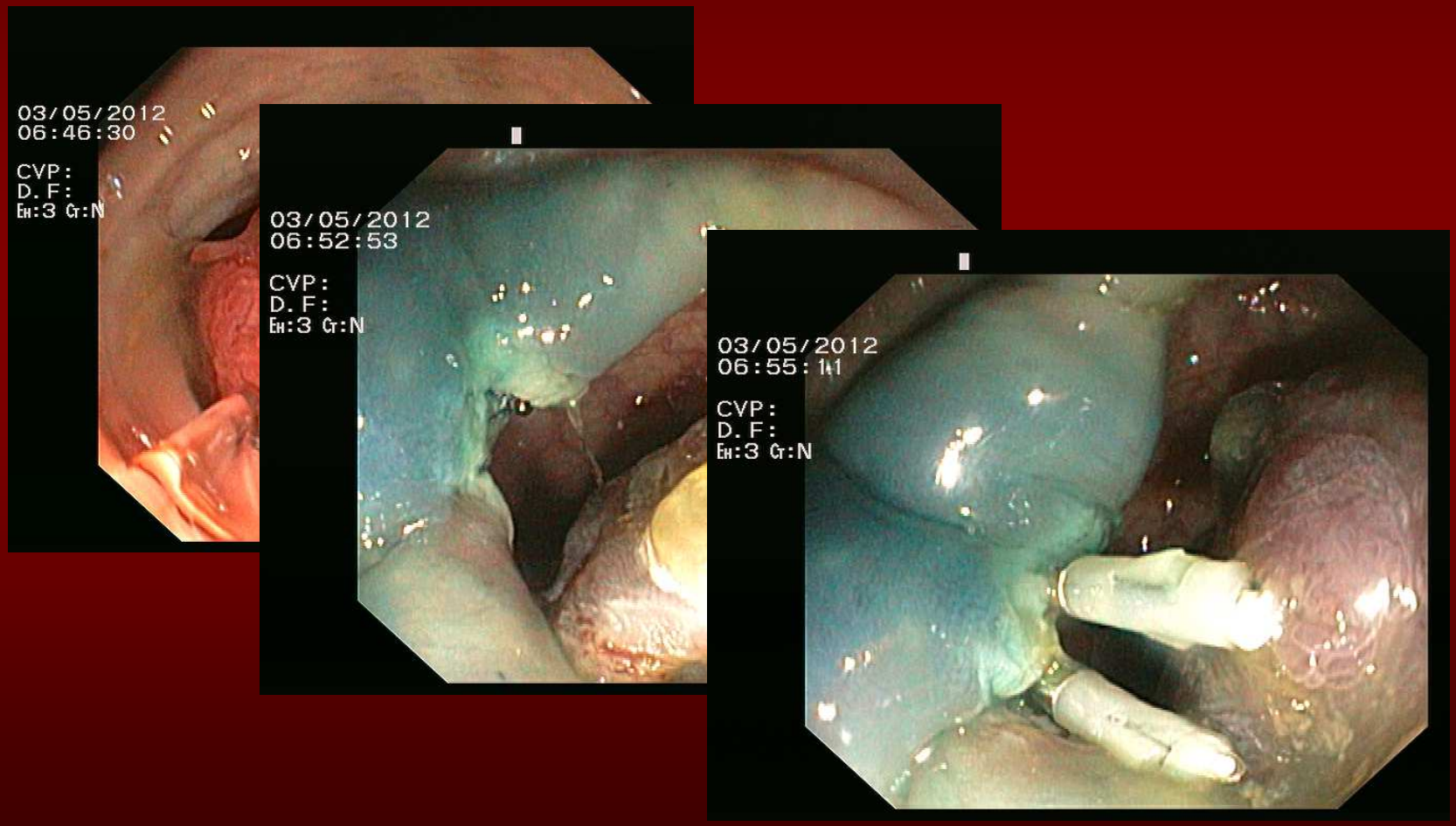
Polipo - 2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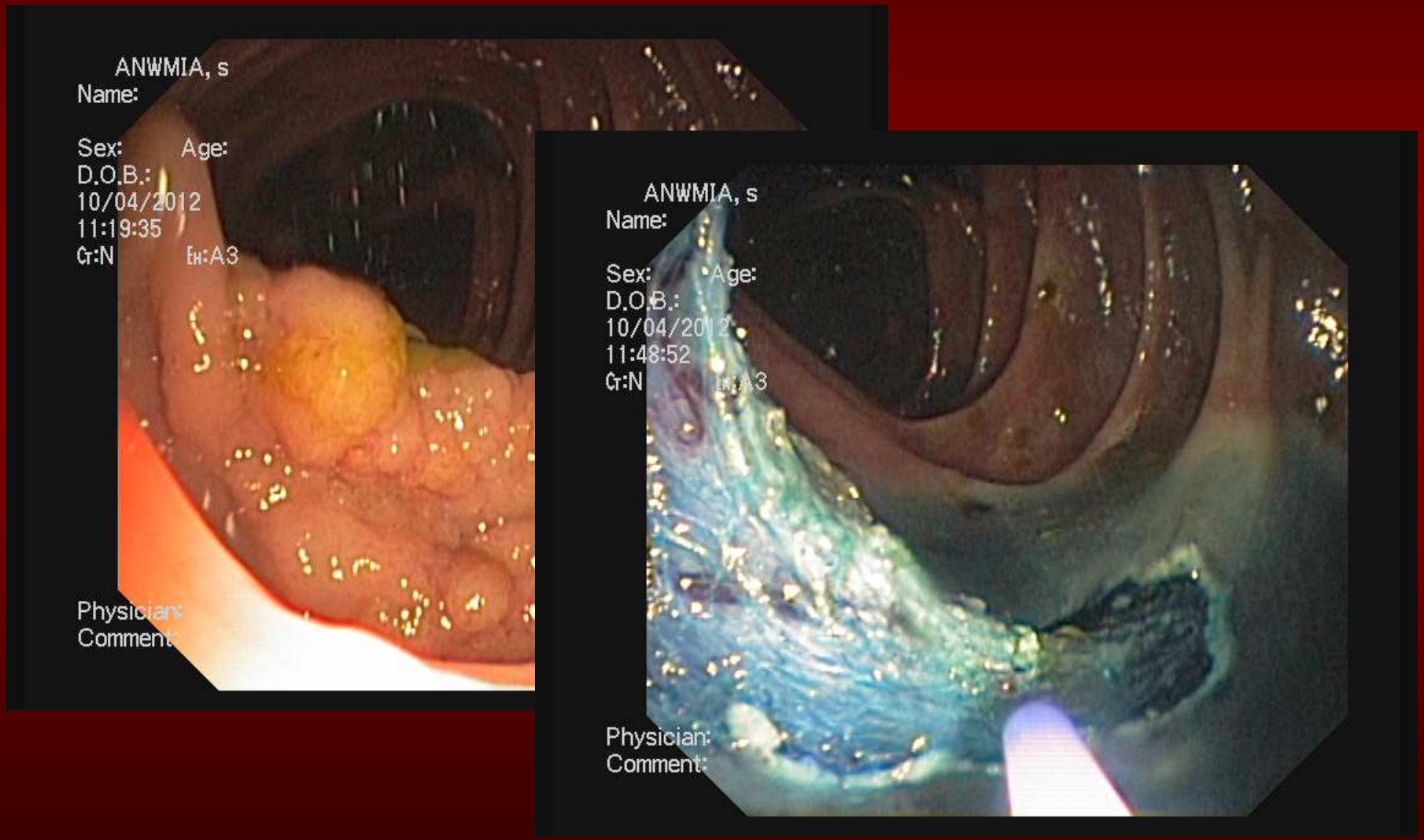
Polipo - 3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Rischio Complicanze Emorragiche in sedi Extra-Viscerali (non trattabili endoscopicamente)

Ecoendoscopia + FNA	Emorragie intra-cistiche Emorragie intra-parenchimali Lesioni vascolari
P.E.G.	Emorragie parete addominale
Dilatazioni Endoscopiche	Ematomi extra-viscerali

Rischio Emorragico correlato alla concomitante TERAPIA FARMACOLOGICA

Terapia Antitrombotica:

- Farmaci ad azione **Anticoagulante**
- Farmaci ad azione **Antiaggregante Piastrinica**

Altri Farmaci:

- FANS/Corticosteroidi
- Inibitori Reuptake Serotonina (SRIs)

FANS-CORTICOSTEROIDI

NON EVIDENZE DI AUMENTATO RISCHIO EMORRAGICO IN CORSO DI CONCOMITANTI TRATTAMENTI CON TALI FARMACI, A PRESCINDERE DAL GRADO DI RISCHIO DELLA PROCEDURA ENDOSCOPICA

British Society of Gastroenterology (BSG) 2008
American Gastroenterology Association (AGA) & American Heart Association (AHA) 2009
American Society of Gastrointerstinal Endoscopy (ASGE) 2009
European Society of Gastrointestinal Endoscopy (ESGE) 2011

Farmaci Inibitori Re-Uptake Serotonina
(Serotonin Reuptake Inhibitors – SRIs-)

Inibitori Selettivi Reuptake Serotonina (SSRIs)
Sertralina
Fluoxetina
Fluvoxamina
Paroxetina
Citalopram
Escitalopram

Inibitori Selettivi Reuptake Serotonina e Noradrenalina (SNRIs)
Venlafaxina
Duloxetina

Bleeding after percutaneous endoscopic gastrostomy is linked to serotonin reuptake inhibitors, not aspirin or clopidogrel

James A. Richter, MD, James T. Patrie, MS, Robert P. Richter, MD, Zachary H. Henry, MD, George H. Pop, MD, Kara A. Regan, MD, David A. Peura, MD, Robert G. Sawyer, MD, Patrick G. Northup, MD, MSc, Andrew Y. Wang, MD

Charlottesville, Virginia, USA

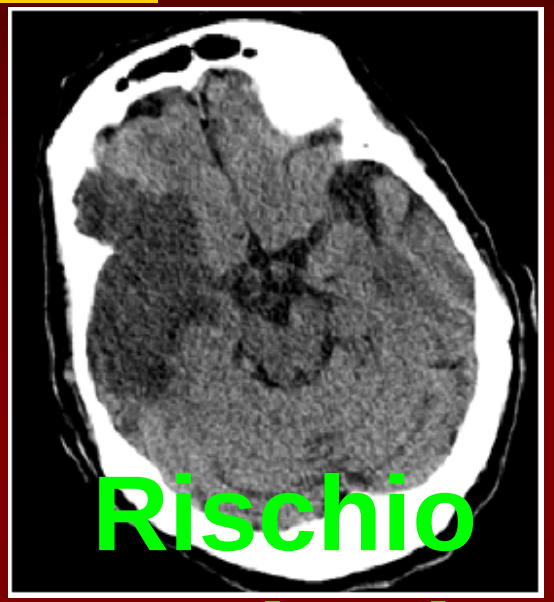
SRIs fattore di rischio indipendente per emorragia post-PEG
Rischio ulteriormente aumentato nell'associazione con FANS, ASA e/o clopidogrel
Rischio Sertralina > Venlafaxina

Gastrointestinal Endoscopy 2011

TERAPIA ANTITROMBOTICA ed ENDOSCOPIA DIGESTIVA

Necessità di Bilancio fra….

Rischio Emorragico



Rischio Trombotico

Rischio Sanguinamento Gastroenterico
TERAPIA ANTITROMBOTICA
(rapporto con ASA in monoterapia)

Hazard Ratios for Bleeding

Drug/combination	Adjusted hazard ratio	95% CI
Clopidogrel	1.33	1.11–1.59
VKA	1.23	0.94–1.61
Aspirin/clopidogrel	1.47	1.28–1.69
Aspirin/VKA	1.84	1.51–2.23
VKA/clopidogrel	3.52	2.42–5.11
VKA/clopidogrel/aspirin	4.05	3.08-5.33

VKA=vitamin K antagonist

Sørensen et al. Lancet 2009

TERAPIA ANTICOAGULANTE

Farmaci Anticoagulanti Orali

WARFARIN

Procedure Endoscopiche a BASSO Rischio Emorragico

Effect and Outcomes of the
ASGE Guidelines on the Periendoscopic
Management of Patients Who Take Anticoagulants

Lauren B. Gerson, Brian F. Gage, Douglas K. Owens, and George Triadafilopoulos
Division of Gastroenterology, Stanford University School of Medicine and Veterans Affairs Palo Alto Health Care System, Palo Alto, California; Division of General Medical Sciences, Washington University School of Medicine, St. Louis, Missouri; and Department of Medicine, Veterans Affairs Palo Alto Health Care System, Palo Alto, California

American Journal of Gastroenterology 2000

104 pz in TAO sottoposti EGDS/colonscopia con biopsie con INR in range terapeutico

0% emorragie intra/periprocedurali rilevate

NON RACCOMANDATA SOSPENSIONE TAO IN PREVISIONE DI PROCEDURE ENDOSCOPICHE A BASSO RISCHIO EMORRAGICO (previo check INR in adeguato range terapeutico)

British Society of Gastroenterology (BSG) 2008
American Gastroenterology Association (AGA) & American Heart Association (AHA) 2009
American Society of Gastrointerstinal Endoscopy (ASGE) 2009
European Society of Gastrointestinal Endoscopy (ESGE) 2011

TERAPIA ANTICOAGULANTE

Farmaci Anticoagulanti Orali

WARFARIN

Procedure Endoscopiche ad ALTO Rischio Emorragico

Incidence and predictors of bleeding or thrombosis after polypectomy in patients receiving and not receiving anticoagulation therapy

D. M. WITT,*† T. DELATE,†‡ K. H. MCCOOL,*‡ M. B. DOWD,*‡ N. P. CLARK,*‡ M. A. CROWTHER,§ D. A. GARCIA,¶ W. AGENO,** F. DENTALI,** E. M. HYLEK†† and W. G. RECTOR‡‡ ON BEHALF OF THE WARPED[1] CONSORTIUM

*Kaiser Permanente Colorado Clinical Pharmacy Anticoagulation Service, Lafayette, CO; †Kaiser Permanente Colorado Clinical Pharmacy Research Team, Aurora, CO; ‡University of Colorado School of Pharmacy, Denver, CO, USA; §McMaster University, Hamilton, ON, Canada; ¶University of New Mexico School of Medicine, Albuquerque, NM, USA; **University of Insubria, Varese, Italy; ††Boston University School of Medicine, Boston, MA, USA; and ‡‡Colorado Permanente Medical Group, Denver, CO, USA

Risk of colonoscopic polypectomy bleeding with anticoagulants and antiplatelet agents: analysis of 1657 cases

Aric J. Hui, MD, Ronald M. Y. Wong, Jessica Y. L. Ching, MPH, Lawrence C. T. Hung, MD, S. C. Sydney Chung, MD, Joseph J. Y. Sung, MD, PhD

Hong Kong, China

TAO fattore di rischio indipendente sanguinamento post-polipectomia

RACCOMANDATA SOSPENSIONE TAO IN PREVISIONE DI PROCEDURE ENDOSCOPICHE AD ALTO RISCHIO EMORRAGICO (bridging con LMWH nei pz ad alto rischio trombotico)

British Society of Gastroenterology (BSG) 2008
American Gastroenterology Association (AGA) & American Heart Association (AHA) 2009
American Society of Gastrointerstinal Endoscopy (ASGE) 2009
European Society of Gastrointestinal Endoscopy (ESGE) 2011

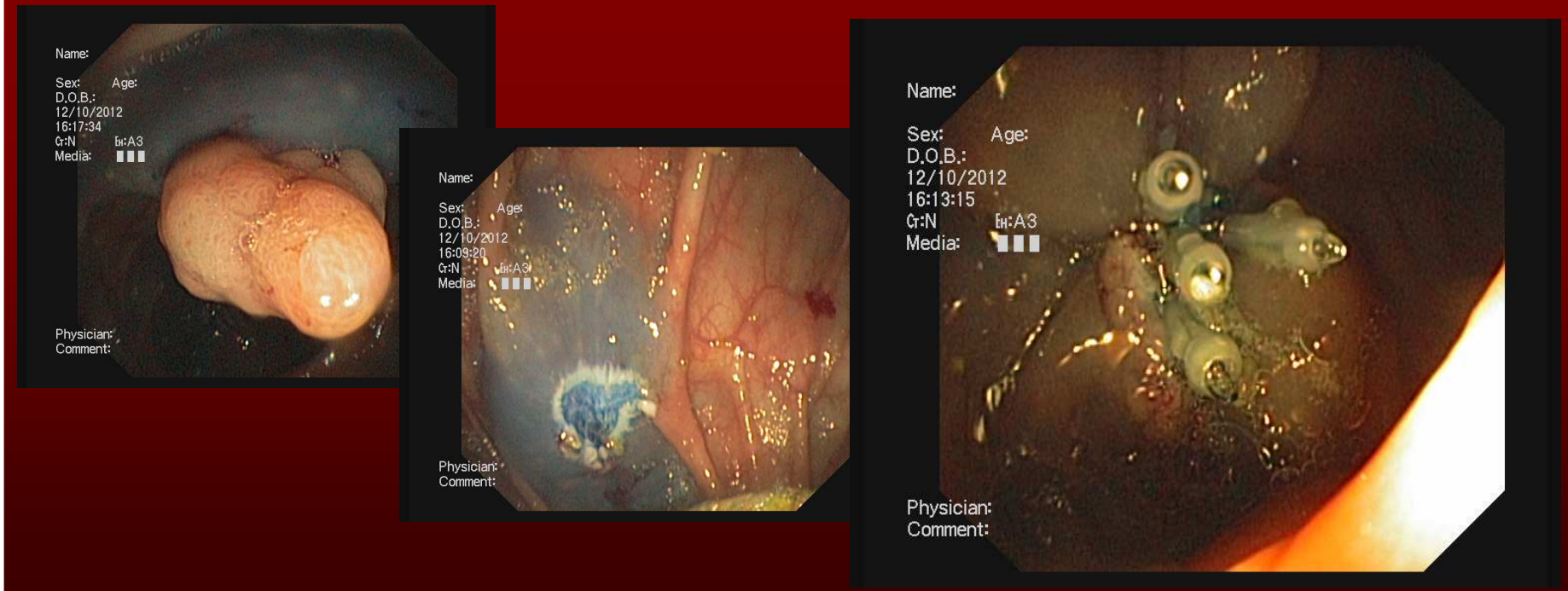
Ruolo della Profilassi Endoscopica del sanguinamento peri-procedurale

Colonoscopic polypectomy in anticoagulated patients

Shai Friedland, Daniel Sedehi, Roy Soetikno

World J Gastroenterol 2009 April 28; 15(16): 1973-1976
World Journal of Gastroenterology ISSN 1007-9327

< sanguinamento post-polipectomia previa applicazione di clips emostatiche



NUOVI ANTICOAGULANTI ORALI

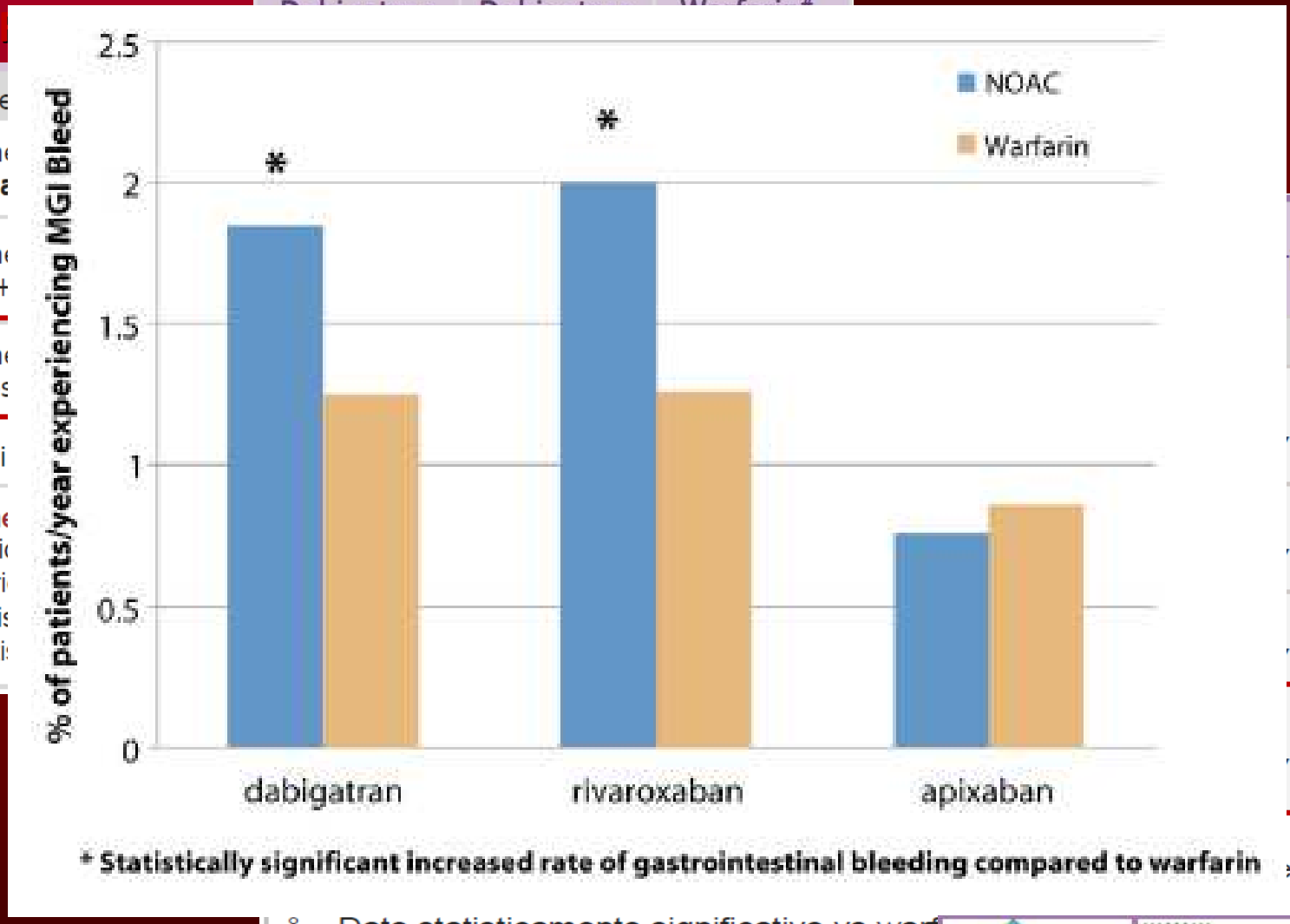
TABLE 1. Comparison of pharmacologic and clinical characteristics of warfarin and the novel oral anticoagulants as a class

	Warfarin	NOAC
Route of administration	Oral	Oral
Food and drug interactions	Many	Few
Therapeutic window	Narrow	Wide
Need for routine monitoring	Yes	No
Site of elimination	Hepatic	Renal and hepatic
Mechanism of action	Reduces synthesis of factors II, VI, IX and X	Directly inhibit factor Xa or thrombin
Time to peak onset	Days	Hours
Half-life	>36 hours	9-17 hours
Need for "bridging"	Frequent	Rare
Approved indication (USA)	Valvular and nonvalvular AF Prevention and treatment of VTE	Nonvalvular AF Prevention and treatment of VTE
Antidote	Yes (vitamin K, FFP, PCC)	No
Monitoring	Yes (PT, INR)	Yes (PT, aPTT, anti-Xa, Hemoclot)

NOAC, Novel oral anticoagulant; *AF*, atrial fibrillation; *VTE*, venous thromboembolism; *FFP*, fresh-frozen plasma; *PCC*, prothrombin complex concentrate; *PT*, prothrombin time; *INR*, international normalized ratio; *aPTT*, activated partial thromboplastin time.

Volume 78, No. 2 : 2013 GASTROINTESTINAL ENDOSCOPY

NUOVI ANTICOAGULANTI ORALI
Rischio Emorragico Gastroenterico



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° Dato statisticamente significativo vs warf

Agenzia sanitaria e sociale regionale
SERVIZIO SANITARIO REGIONALE EMILIA-ROMAGNA
RegioneEmilia-Romagna

TERAPIA ANTIAGGREGANTE PIASTRINICA

Acido Acetilsalicilico (ASA)

First author, year	Study design Number of patients	Incidence of PPB in the whole study population		Patients taking aspirin % (n/n)		*P* value
		Type of PPB	Incidence	Cases (PPB)	Controls (no PPB)	
Shiffman, 1994 [38]	Prospective 464	Any	6.5 %	73 % (22/30)	47 % (206/434)	0.009
		Major*	0.9 %	100 % (2/2)	0 % (0/2)	0.73
Yousfi, 2004 [39]	Retrospective 20 636	Any	0.5 %	40 % (32/81)	33 % (27/81) †	0.36
Hui, 2004 [40]	Retrospective 1657	Any	2.2 %	14 % (5/37)	8 % (122/1620)	0.62
Heldwein, 2005 [22]	Prospective 2257	Any	8.6 %	n.d.	n.d.	n.s.
		Major*	1.6 %	n.d.	n.d.	n.s.
Sawhney, 2008 [23]	Retrospective 4592	Delayed	0.9 %	41 % (17/41)	39 % (51/132) †	0.80

Boustiére et al. Endoscopy 2011

NON RACCOMANDATA SOSPENSIONE INDIPENDENTEMENTE DAL RISCHIO EMORRAGICO DELLA PROCEDURA ENDOSCOPICA

BSG Guideline 2008, ASGE Guideline 2009, ESGE Guideline 2011

TERAPIA ANTIAGGREGANTE PIASTRINICA

Clopidogrel

…cosa dicono le LINEE GUIDA:

Avoid cessation of all antiplatelet therapies after PCI with stent placement when possible.
Avoid cessation of clopidogrel (even when aspirin is continued) within the first 30 days after PCI and either DES or BMS placement when possible.
Defer elective endoscopic procedures, possibly up to 12 months, if clinically acceptable from the time of PCI and DES placement.
Perform endoscopic procedures, particularly those associated with bleeding risk, 5–7 days after thienopyridine drug cessation. Aspirin should be continued when possible.
Resume thienopyridine and aspirin drug therapy after the procedure once hemostasis is achieved. A loading dose of the former should be considered among patients at risk for thrombosis.
Continue platelet-directed therapy in patients undergoing elective endoscopy procedures associated with a low risk for bleeding.
BMS, bare-metal stent(s); DES, drug-eluting stent(s); PCI, percutaneous coronary intervention.

British Society of Gastroenterology (BSG) 2008
American Gastroenterology Association (AGA) & American Heart Association (AHA) 2009
American Society of Gastrointerstinal Endoscopy (ASGE) 2009
European Society of Gastrointestinal Endoscopy (ESGE) 2011

TERAPIA ANTIAGGREGANTE PIASTRINICA

Clopidogrel

…ma quali evidenze in Endoscopia Digestiva?

Effect of Routine Clopidogrel Use on Bleeding Complications After Transbronchial Biopsy in Humans*

Armin Ernst, MD; Ralf Eberhardt, MD; Momen Wahidi, MD; Heinrich D. Becker, MD; and Felix J. F. Herth, MD

Table 2—*Severity of Bleeding in 48 Patients After Transbronchial Biopsy by Antiplatelet Use**

Degree of Bleeding	Clopidogrel Group (n = 18)	Clopidogrel and Aspirin (n = 12)	Control Group (n = 574)	p Value
Mild	5 (27)	0	9 (1.5)	> 0.001
Moderate	6 (34)	6 (50)	9 (1.5)	> 0.001
Severe	5 (27)	6 (50)	2 (0.3)	> 0.001
Total	16 (88)	12 (100)	20 (3.4)	> 0.001

*Data are presented as No. (%).

Conclusions: Clopidogrel use greatly increases the risk of bleeding after transbronchial lung biopsy in humans and therefore should be discontinued before bronchoscopy with biopsies. Aspirin exacerbates the effect of clopidogrel on bleeding. *(CHEST 2006; 129:734–737)*

TERAPIA ANTIAGGREGANTE PIASTRINICA

Clopidogrel

Cessation of Clopidogrel Before Major Abdominal Procedures

Artur Chernoguz, MD; Dana A. Telem, MD; Edward Chu, BA; Junko Ozao-Choy, MD; Yolanda Tammaro, MD; Celia M. Divino, MD

Gr A (43), clopidogrel < 7gg

104 pz chirurgici **vs**

Gr B (61), clopidogrel > 7gg

> Eventi emorragici maggiori (p<0.01), mortalità/morbilità n.s.

Chernoguz et al. Arch Surg 2011

TERAPIA ANTIAGGREGANTE PIASTRINICA

Clopidogrel

ORIGINAL ARTICLE: Clinical Endoscopy

Postpolypectomy bleeding in patients undergoing colonoscopy on uninterrupted clopidogrel therapy (CME)

Mandeep Singh, MD, Nilesh Mehta, MD, Uma K. Murthy, MD, Vivek Kaul, MD, Asma Arif, MD, Nancy Newman, MS

TABLE 3. Postpolypectomy bleeding with and without clopidogrel therapy

	Group A (on clopidogrel) (n = 142)	Group B (not on clopidogrel) (n = 1243)	*P* value
Overall PPB	8 (5.6%)*	38 (3.0%)*	.1
Immediate PPB (intraprocedural)	[illegible]	[illegible]	1.0
Delayed PPB (postprocedural)	5 (3.5%)	12 (1%)	.02
Significant PPB† (all delayed)	3 (2.1%)	5 (0.4%)	.04

PPB, Postpolypectomy bleeding.
*Eight of 8 PPB patients in group A and 16 of 38 PPB patients in group B were taking aspirin ($P = .002$).
†Significant bleeding: patients requiring transfusions, other interventions, or hospitalization.

- **Studio Retrospettivo**
- **Numerosità trattati ridotta**
- **Fattori Confondimento (es clips profilattiche)**

Conclusioni:

- **> Rischio emorragico solo per clop in associazione, ns per clop in monotp**
- **ns mortalità/morbilità maggiori**

Gastrointest Endosc 2010

	Patients with PPB (n = 46)	Patients without PPB (n = 1339)	*P* value
Age, y (mean ± SD)	67.8 ± 11.0	64.12 ± 10.0	.01
Hypertension, %	78	66	.1
Diabetes mellitus, %	24	28	.7
CAD, %	35	30	.5
COPD, %	28	20	.2
CrCl, mL/min	85 ± 35	92 ± 33	.2
Platelets	208 ± 67	225 ± 71	.1
INR	1.07 ± 0.3	1.08 ± 0.2	.8
Clopidogrel, %	17.4	10	.13
ASA/NSAID, %	44	34	.2
Clopidogrel and ASA/NSAIDs, %	17.4	2.7	.0001
Polyps per patient	5.3 ± 4.0	2.5 ± 2.0	<.01

PPB, Postpolypectomy bleeding; *SD*, standard deviation; *CAD*, coronary artery disease; *COPD*, chronic obstructive pulmonary disease; *CrCl*, creatine clearance; *INR*, international normalized ratio; *ASA*, aspirin; *NSAID*, nonsteroidal anti-inflammatory drug.
Values for age, CrCl, platelets, INR, and polyps/patient are expressed as mean ± SD.

TERAPIA ANTIAGGREGANTE PIASTRINICA

Clopidogrel

Meta-analysis: colonoscopic post-polypectomy bleeding in patients on continued clopidogrel therapy

S. Gandhi*, N. Narula†, W. Mosleh‡, J. K. Marshall§ & M. Farkouh¶

Study or Subgroup	Clopidogrel Events	Total	Control Events	Total	Weight	Risk ratio M-H, Random, 95% CI
Feagins 2011	1	118	6	1849	3.8%	2.61 [0.32, 21.52]
Feagins and Iqbal 2013	21	219	14	297	38.2%	2.03 [1.06, 3.91]
Grossman 2010	6	70	41	2380	24.4%	4.98 [2.18, 11.33]
Rodino 2011	1	25	4	400	3.6%	4.00 [0.46, 34.47]
Singh 2010	8	142	38	1243	29.9%	1.84 [0.88, 3.87]
Total (95% CI)		574		6169	100.0%	2.54 [1.68, 3.84]
Total events	37		103			

Heterogeneity: Tau² = 0.00; Chi² = 4.08, df = 4 (P = 0.40); I² = 2%
Test for overall effect: Z = 4.44 (P < 0.00001)

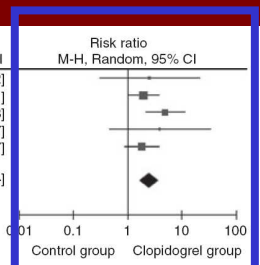


Figure 1 | Continued clopidogrel and immediate and delayed post-polypectomy bleed. Events = immediate and delayed post-polypectomy bleed.

Study or Subgroup	Clopidogrel Events	Total	Control Events	Total	Weight	Risk ratio M-H, Random, 95% CI
Feagins and Iqbal 2013	16	219	14	297	49.8%	1.55 [0.77, 3.11]
Grossman 2010	3	70	26	2380	25.3%	3.92 [1.22, 12.66]
Singh 2010	3	142	26	1243	24.9%	1.01 [0.31, 3.29]
Total (95% CI)		431		3920	100.0%	1.76 [0.90, 3.46]
Total events	22		66			

Heterogeneity: Tau² = 0.11; Chi² = 2.86, df = 2 (P = 0.24); I² = 30%
Test for overall effect: Z = 1.64 (P = 0.10)

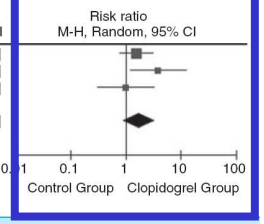


Figure 2 | Continued clopidogrel and immediate post-polypectomy bleed. Events = immediate post-polypectomy bleed.

Table 1 | Summary of pooled analysis

	Clopidogrel group	Control group	Relative risk ratio	Lower 95% CI	Upper 95% CI	*P* value	I^2%
Immediate PPB (%)	22/431 (5.10)	66/3920 (1.68)	1.76	0.90	3.46	0.10	30
Delayed PPB (%)	15/565 (2.65)	37/6158 (0.60)	4.66	2.37	9.17	<0.00001	0
Total PPB (%)	37/574 (6.45)	103/6169 (1.67)	2.54	1.68	3.84	<0.00001	2

Conclusions

The results of this meta-analysis suggest that continued clopidogrel increases the risk of delayed but not immediate post-polypectomy bleeding. Clopidogrel interruption in individuals with coronary artery disease predisposes to serious acute ischaemic events. In high-risk patients, endoscopists should be cognisant of these risks and consider deferring elective colonoscopy and polypectomy until it is considered safe to interrupt clopidogrel therapy.

Aliment Pharmacol Ther 2013; **37**: 947–952

TERAPIA ANTIAGGREGANTE PIASTRINICA

Clopidogrel

Endoscopic Procedures in Patients under Clopidogrel/Dual Antiplatelet Therapy: To Do or Not to Do?

Ahmed Abdel Samie, Lorenz Theilmann

Table I. Studies on bleeding risk of gastrointestinal endoscopic procedures in patients under clopidogrel/dual antiplatelet therapy

Reference	Design	Endoscopic procedure	No of procedures	No of patients (M/F)	Average of age of patients	No of procedures under Clopidogrel	No of patients under dual antiplatelet therapy	Immediate bleeding	Delayed bleeding	Remarks
Friedland et al [5]	Retrospective analysis	Polypectomy	125	60 (60/0)	65	125	10 (17%)	3 (5%)	1 (1,7%)	
Feagins et al [6]	Retrospective case control	Polypectomy	360	118 (118/0)	65	360	93 (78%)	Not assessed	1 (0,8%)	
Singh et al [7]	Retrospective case control	Polypectomy	375	142 (99/43)	66	375	77 (54%)	3 (2%)	5 (3,5%)	
Abdel Samie et al [8]	Retrospective analysis	Endoscopic sphincterotomy	8	8 (4/4)	65	8	8 (100%)	0	0	
Whitson et al [9]	Prospective single blind randomized	Gastroduodenal forceps biopsy	630	45 (18/27)	40	350	0	0	0	Healthy adult volunteers
Richter JA [10]	Retrospective cohort	PEG	990	990 (525/465)	70	27	0	0		Bleeding in the first 48 hours following PEG
PEG: percutaneous endoscopic gastrostomy										

Conclusion: To date, data published on this issue are scarce and of poor quality. Nevertheless, there is no evidence to support the recommendations of the current guidelines to stop clopidogrel for at least one week prior to high-risk endoscopic procedures. In this setting, the clinical decision making should take place on an individual basis.

J Gastrointestin Liver Dis, March 2013 Vol. 22 No 1: 33-36

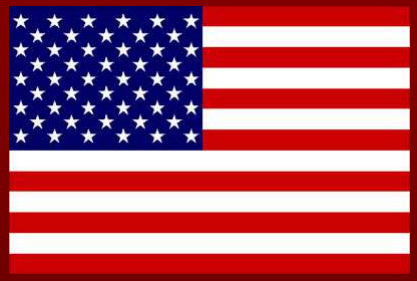
TERAPIA ANTIAGGREGANTE PIASTRINICA

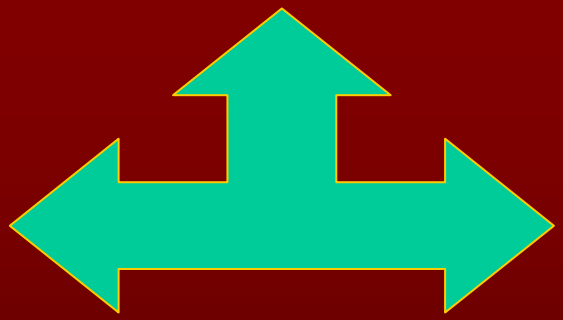
Inibitori GP 2b/3a (*Piccole Molecole*)

Bridging Therapy

Non chiare evidenze in Endoscopia Digestiva

Discrepanza Raccomandazioni in Chirurgia





NO

J Am Coll Cardiol 2009

SI'

Eur Heart J 2010

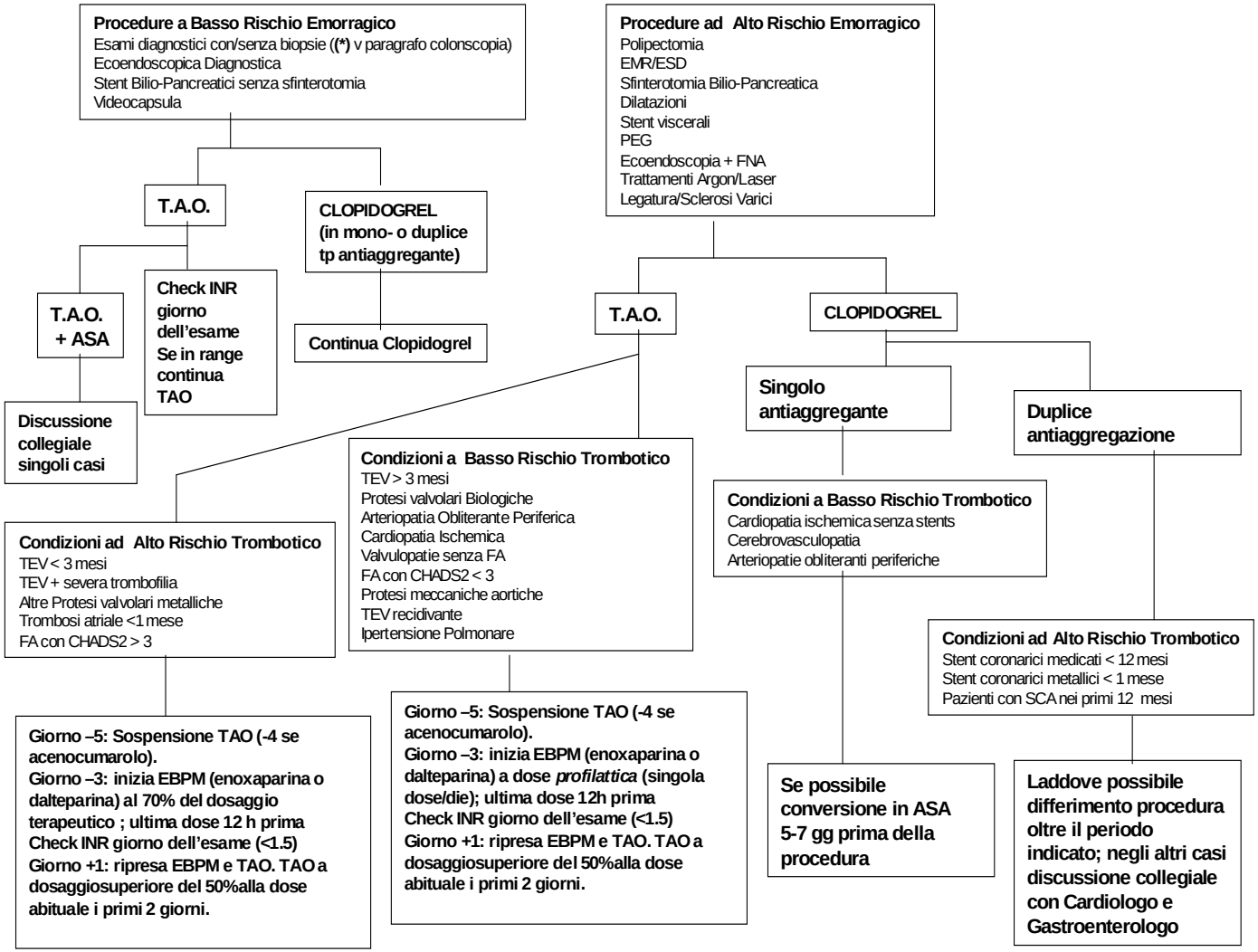
G Ital Cardiol 2012

STENT & SURGERY

Tabella 8. Endoscopia digestiva[115-128].

Rischio emorragico	Rischio trombotico		
	Basso	Intermedio	Alto
Basso EGDS, colonscopia ± biopsia Ecoendoscopia senza biopsia Polipectomia polipi <1 cm ERCP, stent, dilatazione Papilla senza sfinterotomia	*ASA:* proseguire *Inibitori recettore $P2Y_{12}$:* proseguire	*Chirurgia elettiva:* non controindicata *ASA:* proseguire *Inibitori recettore $P2Y_{12}$:* proseguire	*Chirurgia elettiva:* non controindicata *ASA:* proseguire *Inibitori recettore $P2Y_{12}$:* proseguire
Intermedio Endoscopia + biopsia con ago sottile (FNA) di lesioni solide Dilatazione di stenosi (esofagocardiali, colorettali) Stent apparato gastroenterico Coagulazione con argon plasma Sfinterotomia endoscopica (ERCP) Polipectomia polipo >1 cm Gastrostomia percutanea Legatura/sclerosi varici esofagee Legatura/sclerosi emorroidi	*ASA:* proseguire *Inibitori recettore $P2Y_{12}$:* - sospendere 5 giorni prima[a] - riprendere entro 24-72h, con dose di carico	*Chirurgia elettiva:* differire *Chirurgia non differibile:* *ASA:* proseguire *Inibitori recettore $P2Y_{12}$:* - sospendere 5 giorni prima[a] - riprendere entro 24-72h, con dose di carico[b]	*Chirurgia elettiva:* differire *Chirurgia non differibile:* *ASA:* proseguire *Inibitori recettore $P2Y_{12}$:* - sospendere 5 giorni prima[a] - riprendere entro 24-72h, con dose di carico *Bridge con piccole molecole*[b]
Alto Dilatazione per acalasia Mucosectomia/resezione sottomucosa Ecografia con biopsia FNA di lesioni cistiche pancreatiche Ampullectomia papilla di Vater	*ASA:* sospendere *Inibitori recettore $P2Y_{12}$:* - sospendere 5 giorni prima[a] - riprendere entro 24-72h, con dose di carico	*Chirurgia elettiva:* differire *Chirurgia non differibile:* *ASA:* sospendere *Inibitori recettore $P2Y_{12}$:* - sospendere 5 giorni prima[a] - riprendere entro 24-72h, con dose di carico *Bridge con piccole molecole*[b]	*Chirurgia elettiva:* differire *Chirurgia non differibile:* *ASA:* proseguire *Inibitori recettore $P2Y_{12}$:* - sospendere 5 giorni prima[a] - riprendere entro 24-72h, con dose di carico *Bridge con piccole molecole*[b]

ALGORITMO PROCEDURALE



N.B. Per i pazienti in singola terapia antiaggregante con ASA sono possibili tutte le procedure endoscopiche, indipendentemente dal rischio emorragico legato alla manovra, mantenendo la terapia invariata.

Alcuni spunti di Riflessione……

Necessità bridging con EBPM nei pz a basso rischio trombotico candidati a procedure endoscopiche ad alto rischio emorragico

Ruolo delle tecniche di profilassi emorragia post-endoscopia nelle procedure ad alto rischio

Conversione clopidogrel in ASA vs mantenimento clopidogrel quando usato in monoterapia antiaggregante in previsione di procedure ad alto rischio emorragico

Ruolo degli inibitori GPIIb/IIIa in previsione di procedure endoscopiche ad elevato rischio non differibili in pz in duplice tp antiaggregante

Rischio Emorragico in endoscopia per i più recenti antiaggreganti (prasugrel, ticagrelor) e per i nuovi anticoagulanti orali (NAO)

…..e un Punto Cardine:

Valutazione Multidisciplinare nei pazienti complessi (alto rischio trombotico ed emorragico)


....Grazie per l'Attenzione!