

幽门螺杆菌感染与特发性血小板减少性紫癜关系的荟萃分析

谭 勇, 施瑞华, 赵福军

■背景资料

慢性ITP病因目前尚不明确,但是*H pylori*与ITP之间的关系逐渐受到关注,国内外一些研究显示,*H pylori*感染可能与部分ITP患者的发病有着密切的关系。

谭勇, 施瑞华, 赵福军, 南京医科大学第一附属医院消化内科 江苏省南京市 210029

作者贡献分布: 此课题由谭勇与施瑞华设计; 研究过程由谭勇完成; 数据分析由谭勇与赵福军完成; 本论文写作由谭勇完成。

通讯作者: 施瑞华, 教授, 主任医师, 210029 江苏省南京市, 南京医科大学第一附属医院消化内科. ruihuashi@126.com

电话: 025-83718836-6032

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Relationship between *Helicobacter pylori* infection and idiopathic thrombocytopenic purpura: a meta-analysis

Yong Tan, Rui-Hua Shi, Fu-Jun Zhao

Yong Tan, Rui-Hua Shi, Fu-Jun Zhao, Department of Gastroenterology, the First Affiliated Hospital of Nanjing Medical University, Nanjing 210029, Jiangsu Province, China

Correspondence to: Professor Rui-Hua Shi, Department of Gastroenterology, the First Affiliated Hospital of Nanjing Medical University, Nanjing 210029, Jiangsu Province, China. ruihuashi@126.com

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Abstract

AIM: To investigate the relationship between *Helicobacter pylori* (*H pylori*) infection and idiopathic thrombocytopenic purpura (ITP).

METHODS: The databases of PubMed, EMBase and CNKI were searched for published case-control studies on association between *H pylori* infection and ITP. We focused on the difference in the platelet count between the experimental arm (*H pylori*-infected patients who responded to eradication therapy) and each control arm (*H pylori*-infected patients who failed to respond to eradication therapy; *H pylori*-infected patients without eradication therapy and *H pylori*-negative patients). Data were extracted using a standardized form and the meta-analysis was performed.

RESULTS: Twenty-one eligible studies, includ-

ing 17 studies carried by foreigners, and 4 by Chinese researchers, were included in the meta-analysis. There was a statistically significant difference in platelet count between patients who responded to eradication therapy (WMD 61.70, 95%CI: 47.58-75.81) and *H pylori*-negative patients (WMD 24.24, 95%CI: 8.54-39.93). There was no statistically difference in platelet count between *H pylori*-infected patients who didn't responded to eradication therapy (WMD 11.41, 95%CI: -0.07-22.88) and in *H pylori*-infected patients without eradication therapy (WMD 15.77, 95%CI: -7.99-39.5).

CONCLUSION: The platelet count was significantly increased in ITP patients who responded to *H pylori* eradication therapy. However, *H pylori* infection is not the only factor responsible for ITP.

Key Words: Idiopathic thrombocytopenic purpura; *Helicobacter pylori*; Platelet count; Meta-analysis

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摘要

目的: 评价特发性血小板减少性紫癜(ITP)与幽门螺杆菌(*H pylori*)感染的相关性。

方法: 检索PubMed、EMBase和CNKI数据库, 获取ITP与*H pylori*感染的病例-对照研究, 将入选的病例分成4组: *H pylori*阳性并成功清除组; *H pylori*阳性但清除不成功组; *H pylori*阳性未清除治疗组; *H pylori*阴性组。每组均记录进入实验时各患者的基础血小板计数和随访时的血小板计数, 并在组内行荟萃分析。

结果: 检索文献中纳入21篇病例-对照研究, 其中国外17篇, 国内4篇。在随访前后, *H pylori*阳性并成功清除组PLT计数有统计学意义 (WMD 61.70, 95%CI: 47.58-75.81); *H pylori*阳性但清除不成功组PLT计数无统计学意义 (WMD 11.41, 95%CI: -0.07-22.88); *H pylori*

■同行评议者

陈卫昌, 教授, 苏州大学附属第一医院消化内科

阳性未清除治疗组PLT计数无统计学意义(WMD 15.77, 95%CI: -7.99-39.54); *H pylori* 阴性组PLT计数有统计学意义(WMD 24.24, 95%CI: 8.54-39.93)。

结论: *H pylori*阳性的ITP患者在成功清除*H pylori*后PLT计数上升,但*H pylori*感染并不是ITP发生的唯一因素。

关键词: 特发性血小板减少性紫癜; 幽门螺杆菌; 血小板计数; 荟萃分析

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0 引言

特发性血小板减少性紫癜(idiopathic thrombocytopenic purpura, ITP)是临床上最常见的一种血小板减少性疾病,他属于免疫性血小板减少,是临床上常伴出血倾向的自身免疫性疾病,其诱因多种多样。该病的发病机制尚不十分清楚,通常认为与抗血小板自身抗体的产生有关。临床上以激素治疗作为主要的治疗方案,但治疗效果常不佳,且易复发。幽门螺杆菌(*Helicobacter pylori*, *H pylori*)是胃内一种常见的革兰阴性杆菌,已经被广泛认为与上消化道疾病有关。但近年来,*H pylori*与ITP之间的关系逐渐受到关注,国内外一些研究显示,*H pylori*感染可能与部分ITP患者的发病有着密切的关系^[1,3-8]。因此,检索已经发表的病例-对照研究进行荟萃分析,探讨ITP与*H pylori*感染之间的相关性是十分必要的。

1 材料和方法

1.1 材料 通过PubMed、EMBase和CNKI数据库检索1998-01/2008-12文献。以“*Helicobacter pylori*”, “infection”, “bacterium”, “thrombocytopenia”, “ITP”, “idiopathic thrombocytopenic purpura”, “immune thrombocytopenic purpura”, “chronic idiopathic thrombocytopenic purpura”, “low platelet count”, “platelet”, “eradication”, “bacterial eradication”, “therapy”, “幽门螺杆菌”及“特发性血小板减少性紫癜”为检索词检索PubMed, EMBase和CNKI数据库1998-01/2008-12收录的文献。文献纳入标准为:

(1)设计类型为病例-对照研究;(2)患者为成年人并且已确诊为慢性ITP;(3)进行呼气试验检测*H pylori*;(4)研究必须对患者血小板计数进行报告和随访。文献语种为中文和英文,其他语种文献未收集。部分中英文文献的数据不完整,通过与作者联系获取完整数据,如果获取不到完整数据,则舍弃该文献。

1.2 方法 采用统一的数据提取表提取文献数据,表格包括以下内容:第一作者、文献发表时间、文献研究例数、年龄、性别、*H pylori*阳性数及清除成功率、未清除数、*H pylori*阴性数、随访时间以及随访前后的血小板计数等。根据*H pylori*是否感染分成以下4组:(1)*H pylori*阳性,行*H pylori*根治治疗且成功清除组;(2)*H pylori*阳性,行*H pylori*根治治疗但清除不成功组;(3)*H pylori*阳性,未行*H pylori*根治治疗组;(4)*H pylori*阴性组。

统计学处理 采用Cochrane协作网提供的Review Manager 4.2软件进行统计学分析。每组均记录进入实验时各患者的基础血小板计数和随访时的血小板计数,并在组内行荟萃分析。

2 结果

本次荟萃分析共纳入21篇中英文文献^[1-21],共计ITP患者1031例,其中*H pylori*阳性者651名,阳性率为63.14%。*H pylori*阳性者使用标准三联方案进行*H pylori*清除治疗,即质子泵抑制剂(PPI)+2种抗生素每日2次口服7-14 d,经过治疗,*H pylori*清除率为85.94%(428/498)(表1-2)。

荟萃分析结果显示:在随访前后,*H pylori*阳性并成功清除组PLT计数有统计学意义,说明*H pylori*阳性的ITP患者在成功清除*H pylori*后PLT计数上升,*H pylori*的感染与ITP的发生存在一定关系,WMD: 61.70, 95% CI: 47.58-75.81(表3);*H pylori*阳性但清除不成功组PLT计数无统计学意义,WMD: 11.41, 95% CI: -0.07-22.88(表4);*H pylori*阳性未清除治疗组PLT计数无统计学意义,WMD: 15.77, 95% CI: -7.99-39.54(表5);*H pylori*阴性组PLT计数有统计学意义,WMD: 24.24, 95% CI: 8.54-39.93(表6)。考虑其原因可能与ITP致病因素的多样性有关。

3 讨论

1998年Gasbarrini *et al*^[1]报道了18例ITP患者中,11例*H pylori*为阳性,其中8例根除*H pylori*获得成功,与*H pylori*阴性及除菌失败的病例相比,这

■研究前沿

*H pylori*感染与ITP发生究竟是否存在联系?检索已经发表的病例-对照研究进行荟萃分析,探讨ITP与*H pylori*感染之间的相关性,是目前研究的热点。

■ 相关报道

Gasbarrini *et al*报道了18例ITP患者中, 11例*H pylori*为阳性, 其中8例根除*H pylori*获得成功, 与*H pylori*阴性及除菌失败的病例相比, 这8例患者的血小板计数有明显的增加, 抗血小板自身免疫抗体也随之消失。但是匡跃敏 *et al*对42例ITP患者*H pylori*感染情况进行分析, ITP患者*H pylori*感染率为42.9%, 低于我国人群普遍感染率(50%), 在18例*H pylori*阳性患者进行根治治疗后, 发现3例显效患者在3 mo后当强的松减量后, 血小板计数再度减少; 6例良效进步者用药后血小板上升缓慢, 有时会有波动; 9例无效患者用药后血小板计数变化很小。

表 1 *H pylori*阳性患者治疗结果

作者	ITP患者					<i>H pylori</i> 阳性患者		
	<i>n</i>	年龄(岁)	男/女	<i>H pylori</i> 阳性	<i>H pylori</i> 阴性	清除治疗		未清除治疗
						成功	失败	
Gasbarrini <i>et al</i>	18	45	5/13	11/18(61.1)	7/18(38.9)	8/11(72.7)	3/11(27.3)	0
Jarque <i>et al</i>	56	54	18/38	40/56(71.4)	16/56(28.6)	23/32(71.9)	9/32(28.1)	0
Emilia <i>et al</i>	30	50.3	13/17	13/30(43.3)	17/30(56.7)	12/13(92.3)	1/13(7.7)	0
Veneri <i>et al</i>	35	55	12/23	25/35(71.4)	10/35(28.6)	15/16(93.7)	1/16(6.3)	0
Kohda <i>et al</i>	40	52.7	12/28	25/40(62.5)	15/40(37.5)	19/19(100)	0/19	6/25(24.0)
Hino <i>et al</i>	30	54.1	8/22	21/30(70.0)	9/30(30.0)	18/21(85.7)	3/21(14.3)	0
Hashino <i>et al</i>	22	49.1	4/18	14/22(63.6)	8/22(36.4)	13/14(92.9)	1/14(7.1)	0
Ando <i>et al</i>	61	54.8	12/49	50/61(82.0)	11/61(18.0)	27/29(93.1)	2/29(6.9)	21/50(42.0)
Nomura <i>et al</i>	42	—	15/27	28/42(66.7)	14/42(33.3)	12/28(42.9)	16/28(57.1)	0
Takahashi <i>et al</i>	20	51.2	5/15	15/20(75.0)	5/20(25.0)	13/15(86.7)	2/15(13.3)	0
Sato <i>et al</i>	53	59.5	16/37	39/53(73.6)	14/53(26.4)	27/32(84.4)	5/32(15.6)	7/39(17.9)
Michel <i>et al</i>	74	41	24/50	16/74(21.6)	58/74(78.4)	14/15(93.3)	1/15(6.7)	1/16(6.2)
Veneri <i>et al</i>	43	52.1	18/25	43/43	0/43	41/43(95.3)	2/43(4.7)	0
Stasi <i>et al</i>	137	51	57/80	64/137(46.7)	73/137(53.3)	52/52(100)	0/52	12/64(18.7)
Suzuki <i>et al</i>	36	56.8	14/22	25/36(69.4)	11/36(30.6)	11/13(84.6)	2/13(15.4)	12/25(48.0)
Suvajdzic <i>et al</i>	54	51	12/42	39/54(72.2)	15/54(27.8)	23/30(76.7)	7/30(23.3)	9/39(23.1)
Asahi <i>et al</i>	37	—	14/23	26/37(70.3)	11/37(29.7)	26/26(100)	0/26	0
乔爱国 <i>et al</i>	86	47.6	31/55	57/86(66.3)	29/86(33.7)	27/31(87.1)	4/31(12.9)	26/57(45.6)
何晖 <i>et al</i>	48	41.2	16/32	33/48(68.8)	15/48(31.2)	8/11(72.7)	3/11(27.3)	22/33(66.7)
王冬梅 <i>et al</i>	70	39.7	20/50	45/70(64.3)	25/70(35.7)	23/25(92.0)	2/25(8.0)	20/45(44.4)
谭洁 <i>et al</i>	39	40.6	14/25	22/39(56.4)	17/39(43.6)	16/22(72.7)	6/22(27.3)	0

—: 文献未记载。

8例患者的血小板计数有明显的增加, 抗血小板自身免疫抗体也随之消失。因此得出了*H pylori*感染可能与ITP发生存在一定的联系这一结论。

*H pylori*感染引起ITP发生的机制目前仍不明确, 考虑有以下几种原因: (1)交叉抗原, 自身抗体: *H pylori*感染可使宿主细胞骨架发生改变, 并可嵌入上皮细胞之间, 使宿主细胞抗原性改变, *H pylori*表面的热休克蛋白(HSP 54000)是Cn1260的同源物, 可引起宿主自主免疫性组织损伤, *H pylori*感染引起的慢性免疫性刺激持续作用, 最终产生了抗血小板抗体^[22-23]。(2)血小板聚集: *H pylori*通过表达血管假性血友病因子(von willebrand disease, vWF)起作用。正常情况下, 血小板表面的糖蛋白Ib, 只有在内皮损伤时, 才与内皮下的vWF结合, 而产生聚集。由于*H pylori*分泌的vWF, 使得血小板产生聚集, 最后使血小板损害、破坏^[24]。(3)免疫失调: Lewis抗原: *H pylori*表达Lewis抗原, 血小板可吸附Lewis抗原, 继之产生Lewis抗体。该抗体通过与抗原结合后可以激活补体系统, 进而导致血小板的破坏增多^[25]。在ITP患者的血小板的洗脱物中存在

一种蛋白可以与抗Cag A抗体发生凝集反应, 随治疗的好转ITP患者的血清Cag A抗体水平逐渐下降, 考虑Cag A就是在分子模拟过程中起关键作用的蛋白^[10]。(4)HLA: *H pylori*阳性ITP患者与*H pylori*阴性ITP患者的HLA-II类等位基因存在差别。*H pylori*阳性患者的HLA-DRB1*11, HLA-DRB1*14和HLA-DQB1*03等位基因表达频率显著高于*H pylori*阴性患者。提示该基因频率的高低可能与ITP的发生以及对*H pylori*感染的易感性具有某种内在的关系^[25]。但也有学者得出了不同的结论。究其原因可能与*H pylori*基因型的多样性, 宿主易感性等有关^[2,12]。

*H pylori*感染与特发性血小板减少性紫癜关系的荟萃分析结果显示, 有*H pylori*感染的ITP患者在成功清除*H pylori*后, PLT计数能够得到上升, 说明*H pylori*感染与ITP发生存在一定联系。但是无*H pylori*感染的部分ITP患者在随访前后PLT也有上升, 考虑与病程中使用除抗*H pylori*治疗之外的治疗方式(如使用激素, 免疫抑制剂等)有关, 这也说明*H pylori*感染不是导致ITP的唯一因素。

表 2 患者血小板计数

作者	基础血小板计数(×10 ⁹ /L)					随访期末血小板计数(×10 ⁹ /L)					随访时间(mo)
	<i>H pylori</i> 阳性并清除治疗			<i>H pylori</i> 阳性	<i>H pylori</i>	<i>H pylori</i> 阳性并清除治疗			<i>H pylori</i> 阳性	<i>H pylori</i>	
	合计	成功	失败	未清除治疗	阴性	合计	成功	失败	未清除治疗	阴性	
Gasbarrini <i>et al</i>	95.0±28.9	85.0±24.0	102.0±42.0	—	103.0±25.0	139.6±33.8	153.0±30.0	104.0±44.0	—	101.0±28.0	4
Jarque <i>et al</i>	58.4±24.5	57.0±22	62.0±31.0	—	58.0±23.0	65.0±31.8	63.0±27.0	70.0±44.0	—	67.0±28.0	24
Emilia <i>et al</i>	52.5±25.0	50.2±24.6	80	—	41.7±14.8	127.8±92.2	132.9±94.4	67	—	111.4±27.2	8.3
Veneri <i>et al</i>	51.9±27.2	51.7±27.8	55	—	55.7±24.1	139.3±123.6	144.4±125.3	51	—	104.4±37.3	11.7
Kohda <i>et al</i>	67.1±54.2	67.1±54.2	—	—	59.9±40.8	120.0±50.0	118.0±50.0	—	—	45.0±20.0	14.8
Hino <i>et al</i>	36.8±20.7	40.5±16.3	33.5±24.3	—	31.4±12.0	67.2±53.7	152.3±41.1	25.4±22.3	—	42.3±41.6	15
Hashino <i>et al</i>	58.2±30.4	59.1±32.5	47	—	62.6±20.4	98.6±56.5	98.8±58.8	96	—	53.3±26.9	15
Ando <i>et al</i>	56.0±24.0	60.9±24.9	26.0±8.5	40.5±16.4	42.0±24.0	92.8±49.5	97.2±48.5	33.5±4.9	47.0±13	55.0±35.0	11
Nomura <i>et al</i>	29.0±6.0	27.0±5.0	34.0±6.0	—	31.0±5.0	78.0±11.0	96.0±11.0	55.0±13.0	—	34.0±6.0	—
Takahashi <i>et al</i>	39.9±26.7	41.8±28.3	27.5±6.4	—	39.2±42.2	101.1±85.9	110.9±88.4	37.0±12.7	—	35.4±29.3	4
Sato <i>et al</i>	54.0±17.5	53.0±20.0	65.0±16.0	59.0±22.0	55.0±22.0	109.8±21.5	121.0±59.0	55.0±13.0	62.0±24.0	56.0±28.0	6
Michel <i>et al</i>	32.1±14.9	31.7±14.2	54	—	25.6±17.0	66.3±97.8	64.8±101.3	88	—	101.7±96.6	11.5
Veneri <i>et al</i>	54.3±28.7	55.1±26.2	45.9±37.5	—	—	126.1±47.8	130.3±66.7	54.3±33.9	—	—	31.2
Stasi <i>et al</i>	42.0±25.0	42.0±25.0	—	—	46.0±23.0	129.4±61.0	129.4±61.0	—	—	—	25
Suzuki <i>et al</i>	54.7±26.9	—	—	48.4±22.1	—	114.5±90.5	—	—	48.1±26.0	—	6
Suvajdžić <i>et al</i>	63.0±33.5	59.2±34.2	75.3±31.1	86.5±24.1	78.1±32.1	84.1±45.2	86.1±50.4	77.4±28.0	84.8±22.5	78.0±30.7	18
Asahi <i>et al</i>	35.2±13.1	35.2±13.1	—	—	31.4±12.6	113.6±61.3	113.6±61.3	—	—	34.1±19.9	13
乔爱国 <i>et al</i>	21.76±14.34	—	—	22.88±10.67	20.28±15.14	212.11±98.31	—	—	32.74±27.83	172.88±105.35	3
何晖 <i>et al</i>	—	38.86±20.67	—	—	—	—	82.50±21.37	—	—	—	1.5
王冬梅 <i>et al</i>	20.80±9.55	—	—	18.75±1.02	—	169.96±82.87	—	—	93.00±31.87	—	6
谭洁 <i>et al</i>	—	15.75±9.16	16.83±8.40	—	16.71±8.80	—	101.75±54.04	69.17±28.23	—	66.59±27.38	3

—: 文献未记载。

偏倚是影响荟萃分析正确性的重要因素。荟萃分析的质量与发表的原文质量有关, 同时荟萃分析时文章的数量也影响分析的质量。

为了最小限度的减小偏倚的影响, 本研究在PubMed查询的同时, 也在EMBase和CNKI等数据库进行了查询。但是由于语言因素, 数据库内

■创新盘点

本研究以荟萃分析为载体, 研究ITP与*H pylori*感染之间的相关性。

■应用要点

慢性ITP的病因一直不明确,而部分ITP的发生与 $H. pylori$ 感染有关,因此对ITP患者行呼气试验,并清除 $H. pylori$ 感染可作为治疗ITP的一种方法。

表 3 $H. pylori$ 阳性患者PLT计数荟萃分析结果(成功清除组)

Study or sub-category	<i>n</i>	清除后 (mean ± SD)	清除前 (mean ± SD)	WMD (random) 95%CI	Weight(%)	WMD (random) 95%CI
Gasbarrini <i>et al</i>	8	153.00 ± 30.00	85.00 ± 24.00		5.85	68.00 [41.38, 94.62]
Emilia <i>et al</i>	12	132.90 ± 94.40	50.20 ± 24.60		3.47	82.70 [27.51, 137.89]
Jarque <i>et al</i>	23	63.00 ± 27.00	57.00 ± 22.00		6.87	6.00 [-8.23, 20.23]
Veneri D <i>et al</i>	15	144.00 ± 125.30	51.70 ± 27.80		2.88	92.70 [27.75, 157.65]
Kohda <i>et al</i>	19	118.00 ± 50.00	67.10 ± 54.20		5.25	50.90 [17.74, 84.06]
Ando <i>et al</i>	27	97.20 ± 48.50	60.90 ± 32.50		6.39	36.30 [15.74, 56.86]
Hashino <i>et al</i>	13	98.80 ± 58.80	59.10 ± 32.50		4.94	39.70 [3.18, 76.22]
Hino <i>et al</i>	18	152.30 ± 41.10	40.50 ± 16.30		6.40	111.80 [91.37, 132.23]
Michel <i>et al</i>	14	64.80 ± 101.30	31.70 ± 14.20		3.58	33.10 [-20.48, 86.68]
Nomura <i>et al</i>	12	96.00 ± 11.00	27.00 ± 5.00		7.26	69.00 [62.16, 75.84]
Sato <i>et al</i>	27	121.00 ± 59.00	53.00 ± 20.00		6.13	68.00 [44.50, 91.50]
Takahashi <i>et al</i>	13	110.90 ± 88.40	41.80 ± 28.30		3.80	69.10 [18.64, 119.56]
Stasi <i>et al</i>	52	129.40 ± 61.00	42.00 ± 25.00		6.60	87.40 [69.48, 105.32]
Veneri V <i>et al</i>	41	130.30 ± 66.70	55.10 ± 26.20		6.27	75.20 [53.26, 97.14]
Suvajdzic <i>et al</i>	26	113.60 ± 61.30	35.20 ± 13.10		6.08	78.40 [54.31, 102.49]
Asahi <i>et al</i>	23	86.10 ± 50.40	59.20 ± 34.20		6.01	26.90 [2.01, 51.79]
何晖 <i>et al</i>	8	82.50 ± 21.37	38.86 ± 20.67		6.38	43.64 [23.04, 64.24]
谭洁 <i>et al</i>	16	101.75 ± 54.04	15.75 ± 9.16		5.83	86.00 [59.14, 112.86]
合计(95%CI)	367				100.00	61.70 [47.58, 75.81]
Test for heterogeneity: $\chi^2 = 121.87$, $df = 17$ ($P < 0.00001$), $I^2 = 86.1\%$						
Test for overall effect: $Z = 8.57$ ($P < 0.00001$)						
				-100 -50 0 50 100		
				Favours治疗前 Favours治疗后		

表 4 $H. pylori$ 阳性患者PLT计数荟萃分析结果(清除不成功组)








Study or sub-category	<i>n</i>	治疗后 (mean ± SD)	治疗前 (mean ± SD)	WMD (random) 95%CI	Weight(%)	WMD (random) 95% CI
Gasbarrini <i>et al</i>	3	104.00 ± 44.00	102.00 ± 42.00		2.45	2.00 [-66.83, 70.83]
Jarque <i>et al</i>	9	70.90 ± 44.40	62.00 ± 31.00		7.05	8.00 [-27.16, 43.16]
Ando <i>et al</i>	2	33.50 ± 4.90	26.00 ± 8.50		16.15	7.50 [-6.10, 21.10]
Hino <i>et al</i>	3	25.40 ± 22.30	33.50 ± 24.30		6.51	-8.10 [-45.42, 29.22]
Nomura <i>et al</i>	16	55.00 ± 13.00	34.00 ± 6.00		19.38	21.00 [-28.07, 8.07]
Sato <i>et al</i>	5	55.00 ± 13.00	65.00 ± 16.00		13.76	-10.00 [-10.21, 29.21]
Takahashi <i>et al</i>	2	37.80 ± 12.70	27.50 ± 6.40		12.93	9.50 [-61.66, 78.46]
Veneri <i>et al</i>	2	54.30 ± 33.90	45.90 ± 37.50		2.38	8.40 [-28.90, 33.10]
Suvajdzic <i>et al</i>	7	77.40 ± 28.00	75.30 ± 31.10		8.28	2.10 [-20.48, 86.68]
谭洁 <i>et al</i>	6	69.17 ± 28.23	16.83 ± 8.40		11.11	52.34 [28.77, 75.91]
合计(95%CI)	55				100.00	11.41 [-0.07, 22.88]
Test for heterogeneity: $\chi^2 = 23.70$, $df = 9$ ($P = 0.005$), $I^2 = 62.0\%$						
Test for overall effect: $Z = 1.95$ ($P = 0.05$)						
				-100 -50 0 50 100		
				Favours治疗前 Favours治疗后		

除中英文外的文献(如日文文献等)均未录入本研究,因此语言偏倚还是存在的。

进行荟萃分析,使用随机对照实验的数据是

最理想的。但是目前随机对照实验进行的很少,因此开展相关实验,探讨 $H. pylori$ 感染与ITP发生的内在联系以及ITP发病机制尚需进一步研究。


















表 5 *H. pylori*阳性患者PLT计数荟萃分析结果(未清除治疗组)

Study or sub-category	<i>n</i>	随访计数 (mean ± SD)	基础计数 (mean ± SD)	WMD (random) 95%CI	Weight(%)	WMD (random) 95%CI
Ando <i>et al</i>	21	47.00 ± 13.00	40.50 ± 16.40		17.79	6.50 [-2.45, 15.45]
Sato <i>et al</i>	7	62.00 ± 24.00	59.00 ± 22.00		15.36	3.00 [-21.12, 27.12]
Suzuki <i>et al</i>	12	48.10 ± 26.00	48.40 ± 22.10		16.29	-0.30 [-19.61, 19.01]
Suvajdzic <i>et al</i>	9	84.80 ± 22.50	86.50 ± 24.10		15.87	-1.70 [-23.24, 19.84]
乔爱国 <i>et al</i>	20	93.00 ± 31.87	18.75 ± 1.02		17.17	74.25 [60.28, 88.22]
王冬梅 <i>et al</i>	26	32.74 ± 27.83	22.88 ± 10.67		17.51	9.86 [-1.60, 21.32]
合计(95%CI)	95				100.00	15.77 [-7.99, 39.54]
Test for heterogeneity: $\chi^2 = 78.52$, <i>df</i> = 5 (<i>P</i> < 0.00001), <i>I</i> ² = 93.6%						
Test for overall effect: <i>Z</i> = 1.30 (<i>P</i> = 0.19)						
				-100 -50 0 50 100		
				Favours治疗前 Favours治疗后		

■同行评价

本文选题较好, 实用性较强, 有较高的参考价值。

表 6 *H. pylori*阴性患者PLT计数荟萃分析结果

Study or sub-category	<i>n</i>	随访计数 (mean ± SD)	基础计数 (mean ± SD)	WMD (random) 95%CI	Weight(%)	WMD (random) 95%CI
Gasbarrini <i>et al</i>	7	101.00 ± 28.00	103.00 ± 25.00		5.95	-2.00 [-29.81, 25.81]
Emilia <i>et al</i>	17	111.40 ± 27.20	41.70 ± 14.80		6.87	69.70 [54.98, 84.42]
Jarque <i>et al</i>	16	67.00 ± 28.00	58.00 ± 23.00		6.68	9.00 [-8.75, 26.75]
Veneri D <i>et al</i>	10	104.40 ± 37.30	55.70 ± 24.10		5.97	48.70 [21.18, 76.22]
Kohda <i>et al</i>	15	45.00 ± 20.00	59.90 ± 40.80		6.32	-14.90 [-37.89, 8.09]
Ando <i>et al</i>	11	55.00 ± 35.00	42.00 ± 24.00		6.16	13.00 [-12.08, 38.08]
Hashino <i>et al</i>	8	53.30 ± 26.90	62.60 ± 20.40		6.29	-9.30 [-32.69, 14.09]
Hino <i>et al</i>	9	42.30 ± 41.60	31.40 ± 12.00		5.91	10.90 [-17.39, 39.19]
Michel <i>et al</i>	58	101.70 ± 96.60	25.60 ± 17.00		6.15	76.10 [50.86, 101.34]
Nomura <i>et al</i>	14	34.00 ± 6.00	31.00 ± 5.00		7.27	3.00 [-1.09, 7.09]
Sato <i>et al</i>	14	56.00 ± 28.00	55.00 ± 22.00		6.63	1.00 [-17.65, 19.65]
Takahashi <i>et al</i>	5	35.40 ± 29.30	39.20 ± 42.20		4.56	-3.80 [-48.83, 41.23]
Suvajdzic <i>et al</i>	11	34.10 ± 19.90	31.40 ± 12.60		6.91	2.70 [-11.22, 16.62]
Asahi <i>et al</i>	15	78.00 ± 30.70	78.10 ± 32.10		6.36	-0.10 [-22.58, 22.38]
乔爱国 <i>et al</i>	29	172.88 ± 105.35	20.28 ± 15.14		5.06	152.60 [113.86, 191.34]
谭洁 <i>et al</i>	17	66.59 ± 27.38	16.71 ± 8.80		6.93	49.88 [36.21, 63.55]
合计(95%CI)	256				100.00	24.24 [8.54, 39.93]
Test for heterogeneity: $\chi^2 = 203.37$, <i>df</i> = 15 (<i>P</i> < 0.00001), <i>I</i> ² = 92.6%						
Test for overall effect: <i>Z</i> = 3.03 (<i>P</i> = 0.002)						
				-100 -50 0 50 100		
				Favours治疗前 Favours治疗后		

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