

EDITORIAL



Narrative reviews from a fraudulent author: reasons to retract

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Clinical studies from fraudulent authors are retracted, but narrative reviews are not. We believe that reviews should be considered for retraction, too. J. Boldt is number 2 on the top list of fraudulent authors; currently, 96 of his clinical studies have been retracted since 2010. Earlier trials from the 1990s are also suspected for fraudulence, but the ethics boards no longer keep the documents, making it difficult to prove [1]. Fraudulent clinical studies generate false evidence that may harm patients [1, 2]. Narrative reviews based on falsified data generate false messages that may also result in patient harm. The effect of narrative reviews on clinical practise should not be underestimated. We believe that narrative reviews may be quite influential especially in contentious fields. Readers may prefer narrative reviews because they are easy to follow and contain clear recommendations [3], while systematic reviews, though considered to be of higher quality, may appear “boring and sometimes unimplementable” [4] and contain no or limited recommendations. Indeed, leading journals publish more narrative than systematic reviews [5].

Boldt published numerous narrative reviews. We previously found that he alone authored 21 of all 124 reviews supporting the use of hydroxyethyl starch (HES) published between 1975 and 2010 [6]. From the 1990s onwards, favourable reviews increased from two to eight per year and HES's share of the artificial colloid market tripled from 20 to 60% [6]. We believe this association implies that narrative reviews contributed to the increasing use of HES. Table 1 shows an overview over 23 reviews written between 1998 and 2010 (21 previously

identified reviews [6] plus 2 reviews identified during an update in November 2018). Closer scrutiny reveals that all reviews cite retracted studies and contain misleading statements supporting the use of a substance that is less effective and clearly harmful in some patient groups. The misleading messages (Table 1) can also be found in reviews written by leading medical officers from a manufacturing company [7, 8]. Boldt admitted to financial payments from the fluid manufacturer to himself and his department [9]. However, the sheer multitude of reviews is astounding (not counting the numerous clinical studies by Boldt) as is the fact that several reviews contain the results from different MEDLINE searches, complex graphs and reference lists with more than 100 references. It may therefore be questioned whether Boldt wrote all these reviews himself.

The false claims have been refuted by the results of clinical trials and meta-analyses [10–13]. The EMA (European Medicines Agency) has issued clear constraints for using HES in critically ill patients, including new measures introduced this year to protect patients further (<https://www.ema.europa.eu/en/medicines/human/referrals/hydroxyethyl-starch-hes-containing-medicinal-products>). However, HES is used widely outside Europe, and Boldt's narrative reviews continue to be cited. Web of Science Citation reports show 591 citations overall and 238 since 2011. In his reviews, Boldt bases his misleading claims on his own fraudulent studies (Table 1). Only one review was withdrawn as it contained Boldt's retracted contribution to German guidelines on blood product use [14]. Not surprisingly, Boldt had deprecated albumin in favour of starches.

Narrative reviews relying on falsified data should therefore be retracted too.

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Table 1 Overview over 23 narrative reviews of HES by J. Boldt

References no.	Year	Times cited		Focus	Reference to own studies		Misleading messages and unsubstantiated claims
		All	2011–18		Re-traced	Not re-traced	
1	1998	n.a.	n.a.	ICU	2	6	Deprecates albumin Denies HES class effect, i.e., "modern" HES is less harmful and has more benefits than "older" HES preparations Claims "modern" HES is safer Claims additional beneficial effects of "modern" HES (microcirculation, inflammation, coagulation) Claims Crys-coll ratio 3 or 4 to 1
2	1999	8	2	Surgery	2	2	Claims colloid more effective Deprecates albumin Claims HES more effective and safer than other synthetic colloids Denies HES class effect Claims additional beneficial effects
3	1999	11	1	Cardiac surgery	0	10	Deprecates deprecates crystalloids Denies HES class effect Claims "modern" HES has no harmful effects on coagulation
4	2000	28	7	Surgery	1	3	Deprecates crystalloids Deprecates albumin Denies HES class effect Claims additional beneficial effects
5	2000	22	4	ICU	1	2	Deprecates albumin Denies HES class effect Denies mortality is important outcome in fluid trials Claims additional beneficial effects
6	2002	12	1	Renal failure	2	1	Claims "modern" HES is not nephrotoxic
7	2003	37	7	Renal failure	1	2	Claims "modern" HES is not nephrotoxic Claims adequate hydration can protect from nephrotoxic HES effects
8	2003	53	8	General	5	3	Deprecates albumin Denies HES class effect Claims additional beneficial effects; claims safety and efficacy of modern HES is proven by numerous studies
9	2003	20	2	Renal failure	1	2	Denies HES class effect Claims "modern" HES is not nephrotoxic Claims adequate hydration can protect from nephrotoxic HES effects
10	2004	7	1	General	4	4	Deprecates albumin Denies HES class effect Claims additional beneficial effects; claims spurious new research questions
11	2004	52	9	Trauma	4	3	Claims that colloids are more effective for resuscitation Deprecates albumin 12 Claims that better HES are on the market in Europe than in North America
12	2005	50	17	General	3	0	Deprecates albumin Denies mortality is important outcome in fluid trials Claims additional beneficial effects by direct action of the HES molecule
13	2005	16	1	General	2	0	Optimum colloid should be defined by physiological criteria, not by mortality in clinical trials
14	2006	14	3	Cardiac surgery	3	1	Deprecates US meta-analyses because they ignore claimed additional beneficial effects of HES Claims safety and efficacy of modern HES is proven by numerous studies
15	2006	33	12	General	4	3	Deprecates crystalloids Deprecates albumin Claims additional beneficial effects of the HES molecule
16	2006	30	12	Abdominal surgery	3	0	Deprecates crystalloids Claims additional beneficial effects of the HES molecule

Table 1 (continued)

Refer- ences no.	Year	Times cited		Focus	Reference to own studies		Misleading messages and unsubstantiated claims
		All	2011–18		Re-traced	Not re-traced	
17	2007	10	1	Cardiac surgery	3	0	Deprecates albumin Claims modern HES is not harmful to coagulation Claims additional beneficial effects of the HES molecule
18	2008	16	6	Balanced HES solutions	3	1	Claims additional benefits through balanced carrier solution
19	2009	23	11	ICU, renal failure	3	0	Claims modern HES is not nephrotoxic Nephrotoxic effects can be avoided by proper hydration
20	2009	43	33	General	7	0	Denies HES class effects Claims additional beneficial effects of the HES molecule Claims numerous studies have proven safety and efficacy of “modern” HES Claims mortality is not influenced by choice of fluid
21	2010	6	4	General	2	0	Claims spurious new research problems
22	2010	37	37	Microcirculation and tissue oxygenation	1	0	Suggests additional beneficial effects of the HES molecule
23	2010	63	59	Albumin vs. HES	2	0	Deprecates albumin Claims “modern” HES is equally effective and safe

References 1–23 are listed in the Online Supplement

Electronic supplementary material

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Compliance with ethical standards

Conflicts of interest

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