Letters and Replies

Online access to nephrology journals: the FUTON bias

Sir,
The editorial by Drueke et al. [1], on having NDT available online for developing countries, should receive the most enthusiastic support. It is widely appreciated that the presence of full-text articles on the Internet improves greatly the readers’ chances of accessing information in a timely fashion and has improved the visibility of the journal greatly.

A concern raised recently, however, is a bias of readers, especially younger medical residents and students, to rely heavily on articles which are available online for selective reading of the subject. Wentz [2] has reported this tendency as FUTON (Full Text On the Net) bias. While this bias may not affect the established researcher, already well versed in the techniques of detailed literature search and critical appraisal, it might affect the casual reader with limited experience. It remains critical, therefore, to be aware of this fact, and journal editors must strive for exacting standards of articles from contributing authors. Another possible danger is that journals which are available online might be perceived to have a higher standing by virtue of being more visible. It has been suggested that publishers of medical journals should feel encouraged to have their journals published online, lest they lose out in the competition [2].

We have recently concluded a study of 26 nephrology journals, and have found that 11 journals were available in full-text articles online [3]. The remaining 15 journals had abstracts only available in MEDLINE. It has been suggested that the long-term effect of the FUTON bias may be similar to publication bias or language bias in reporting literature. Therefore, we believe that having articles published online may reduce this effect. Editorials and Letters to the Editor should also be available online. In this respect, we believe that NDT is far ahead of the field.

Conflict of interest statement. None declared.

Department of Internal Medicine
Mayo Clinic
Rochester
USA
Email: ghosh.amit@mayo.edu

1. Drueke T, Lameire N, Hill M. Online access to NDT for developing countries. Nephrol Dial Transplant 2003; 18: 453

DOI: 10.1093/ndt/gfg247

Reply

Sir,
We read with great interest the letter by Ghosh and Murali, in which they comment on our Editorial in the March 2003 issue of NDT. We certainly agree that the availability online of editorial features, scientific articles, clinical reports and educational features is a major goal for all medical science journals. We wish, however, to caution their enthusiasm.

Whilst all articles are free to anyone within not-for-profit institutes in developing countries, in developed countries articles appearing in NDT issues are immediately and freely available to subscribers only, with the exception of some selected editorial comments which can be accessed free on the web. It is only after 2 years have elapsed that the full version of all articles becomes freely available to all non-subscribers. Of course, non-subscribers may access full texts of any article online, by paying a fee per article. This policy has been chosen by necessity, in order to keep the journal in financial balance.

Unfortunately, financial sources other than those coming from subscriptions would not be sufficient to keep the journal in funds. As pointed out in our editorial report in the January 2003 issue, the European Renal Association (ERA) has, however, made a major effort recently in setting up an online journal (NDT-Educational), which provides essentially recent information on important advances in the broad field of nephrology, and also different types of educational features. Finally, concerning ‘full text on the net’ (FUTON) bias, mentioned by Ghosh and Murali, it is true that we are all exposed to biased reading in one way or another, depending on the accessibility and availability of sources which we have decided to consult on a regular basis.

Tilman Drueke
Norbert Lameire
Mandy Hill

DOI: 10.1093/ndt/gfg248

Bioelectrical impedance analysis and assessment of body composition in end-stage renal disease

Sir,
We read with interest the paper of Kamimura et al. [1] concerning the comparison of skinfold thickness (ST), bioelectrical impedance analysis (BIA) and dual-energy X-ray absorptiometry (DEXA) for the assessment of body fat in chronic haemodialysis patients. The authors concluded that in haemodialysis ST is preferable to BIA, because of the lower gender-specific variability in the assessment of body fat. Nonetheless, due to its simplicity, BIA has received much attention from nephrologists; it has been suggested that BIA would be preferable to ST due to the more precise evaluation of hydration status and to the lower inter-operator error [1].
We would like to raise some questions. Is it more relevant for haemodialysis patients to measure obesity or malnutrition? Malnutrition is well measurable with techniques other than ST, including BIA. Indeed, in haemodialysis the BIA-derived phase angle correlates with mortality [2–4]. On the contrary, the association between ST and mortality in haemodialysis has never been described.

Is it more relevant in haemodialysis to measure body fat, or total body water? BIA correlates with the water content of the subject and is well used to evaluate the hydration state in both stable and unstable haemodialysis patients [5]. Moreover, norms for BIA variables in haemodialysis have been described [6]. On the contrary, norms of ST in haemodialysis have never been reported.

What is the most reliable time for measuring body water in haemodialysis? As subjects on haemodialysis undergo cyclical variations of body water content, it would be useful to standardize the timing of BIA measurements; in other words, does a phenomenon of electric post-haemodialysis rebound exist? Twenty-seven patients on long-term haemodialysis underwent BIA measurements at the beginning, the end, 15, 30, 60, 90 and 120 min and 24, 48 and 72 h after the end of the haemodialysis session. Dialysis dehydration measured 2.8 l; body weight increased by 1.4, 2.6 and 3.4 l at the 24, 48, 68 h time. R and Xc significantly changed during dialysis (R 453 ± 74 to 542 ± 98, P < 0.05; Xc 38 ± 10, 53 ± 16, P < 0.05) and during the interdialysis period (R 471 ± 79, 429 ± 98 and 424 ± 68, P < 0.05; Xc 42 ± 13, 37 ± 10 and 34 ± 13, P < 0.05); alternatively, R and Xc were absolutely stable during the 2-h post-dialysis time. The data suggest that BIA measurements can be performed anytime after the haemodialysis session, as they are not influenced by post-haemodialysis fluid re-equilibrium.

Of note, any condition associated with hydration abnormalities, like haemodialysis, introduces a distortion in the water compartments, with unpredictable propagation of the error in the assessment of body water performed with whatever technique. In fact, post-dialysis DEXA finds evidence of a reduction of both fat free mass and body density, and ST reduces the FFM by 5% [7].

In summary, in haemodialysis BIA is a simple, reproducible, non operator-dependent method for estimating total body water and can be used as a predictor of survival. BIA is not capable of estimating the adiposity in haemodialysis patients, but such measure seems to be less relevant in this population.

Conflict of interest statement. None declared.

1 Unità Operativa di Nefrologia e Dialisi Ospedale ‘A. Landolfi’
Biagio R. Di Iorio
Solofra, ASL AV/2

2 Unità Operativa di Nefrologia e Dialisi Ospedale ‘Curto’ Polla, ASL SA/3
Italy
Email: bidior@tin.it


DOI: 10.1093/ndt/gfg278

Reply

Sir,

We appreciate the interest of Di Iorio and Bellizzi in our recently published paper, concerning the comparison of skinfold thickness and bioelectrical impedance analysis with dual-energy X-ray absorptiometry for the assessment of body fat in patients on long-term haemodialysis therapy.

Regarding their questions, “Is it more important in haemodialysis patients to measure obesity or malnutrition?” and “Is it more relevant in haemodialysis patients to measure body fat or total body water?”, to the best of our knowledge the measurement of body fat mass is part of the nutritional assessment and is an important parameter in evaluating both obesity and malnutrition. The fact that we conducted our comparative analysis of body fat compartment does not exclude the importance of assessing lean body mass and/or hydration status in this population. We cannot agree with Drs Di Iorio and Bellizzi, who consider body fat is not essential for haemodialysis patients, as fat carries out a potential role in covering the individual’s energy requirements, especially in patients who are exposed to several catabolic conditions, as is the renal population. Moreover, a poor nutritional status can be identified by waste of total body mass, including fat content. In fact, Qureshi et al. [1] demonstrated in a cross-sectional study that a low skinfold thickness is one of the anthropometric factors associated with malnutrition in haemodialysis patients. Although studies have shown that chronic renal failure patients present reduced skinfold measurement in comparison with healthy individuals [2], its implication on long-term outcome of haemodialysis treatment is not well defined. However, lower values of BMI, which is a parameter related most directly to body fat mass, have been associated with high mortality in chronic renal patients [3].

Body composition of haemodialysis patients can suffer changes over time; however, few studies have analysed the modifications of total body fat in these patients. Prospective studies of body fat compartment using dual-energy X-ray absorptiometry have demonstrated a significant increase in fat mass in the first year of maintenance haemodialysis [4,5]. In male diabetic patients a decrease in body fat has been observed [6]. A very recent study including a large number of haemodialysis patients suggested a gradual increase of fat...