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Reply to comment: Left upper quadrant abdominal pain in malaria: suspect pathological splenic rupture first

I agree with Imbert et al.[1] that when left upper quadrant abdominal pain occurs during an acute malaria attack, the attending physician should search not only for splenic infarction but also for splenic rupture.

Although splenomegaly is frequently observed in malaria cases, pathological rupture of the spleen is not as commonly observed clinically, probably because splenomegaly in malaria is not soft and friable but firm. One of the mechanisms of splenic rupture is thought to be splenic infarction.[2]

Various pathological changes, including thrombi in arterioles, veins and sinusoid, have been described in the malarial spleen that can lead to infarction.[3] The true incidence rate of splenic infarction can easily be underestimated as splenomegaly tends not to receive special attention in cases of malaria. The actual incidence rate of splenic infarction can be determined if ultrasound or computed tomography is performed more frequently in malaria cases.[4]

Whether splenic infarction or splenic rupture is more common requires an in-depth study regarding the involvement of the spleen in malaria. However, both lead to serious consequences, and early detection and management is important.

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References

1. Imbert P, Buffet P, Ficko C, Rapp C. Left upper quadrant abdominal pain in malaria: suspect pathological splenic rupture first. *Trans R Soc Trop Med Hyg* 2010;**104**:628.
2. Choudhury J, Uttam KH, Mukhopadhyay M. Spontaneous rupture of malarial spleen. *Indian Pediatr* 2008;**45**:327–8.
3. Hershey FB, Lubitz JM. Spontaneous rupture of the malarial spleen; case report and analysis of 64 reported cases. *Ann Surg* 1948;**127**:40–57.
4. Agarwal VK, Agarwal S, Pathak T. Splenic infarction in falciparum malaria. *Indian Pediatr* 1997;**34**:1050–1.

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Attrition of HIV-infected individuals not yet eligible for antiretroviral treatment: do we care?

We read with interest the paper by Tayler-Smith et al., drawing the attention to the high attrition among WHO stages 1 and 2 patients in their HIV program in Malawi.[1] We would like to report on our program experience with loss to care of patients that are not yet eligible for antiretroviral treatment (ART) in Cambodia, since it seems to complement their findings.

In 2003, we started providing HIV treatment in a private not-for-profit hospital in Phnom Penh, Cambodia, currently with over 2500 started on ART. As with most ART programs, we observed excellent outcomes for those initiating ART, but poor outcomes for ART-eligible patients not starting ART.[2] We also assessed the outcomes of the remaining population, essentially those patients that are not yet eligible for ART at the time of enrolment. This population gradually increased over time, from 8% in 2003 to 26% by 2009 (Table 1). With the revised WHO guidelines encouraging earlier ART initiation, around 20% remain not yet eligible at enrolment. Currently, most of these patients present in WHO stage 1, with a median CD4 cell count of 421 cells/μL. Attrition of this population is relatively high: 92% of those initiating ART were retained by 12 months, whereas this was only 60% for those not yet eligible for ART. In rural health centres in Rwanda, similar high attrition rates were reported for non-eligible patients, which constituted more than half of the patient population enrolling into HIV care.[3] Recent data from a large HIV program in Kenya also demonstrated that around 41% of individuals (27% with the new WHO guidelines) are currently not eligible for ART at enrolment.[4] All together, a substantial and increasing proportion of individuals currently enrolling into HIV care programs have poor retention, but this is not

Table 1
WHO stage, ART eligibility and CD4 cell count at enrolment in the HIV care program in Cambodia per year of enrolment.

Year of enrolment in HIV care	% WHO stage 1 or 2 at enrolment	% not ART eligible – old criteria[a]	% not ART eligible – new criteria[b]	Median CD4 cell count if not eligible
2003	10	8	7	507 (402–716)
2004	20	17	13	443 (352–565)
2005	25	22	19	467 (382–580)
2006	34	27	22	449 (359–642)
2007	37	25	19	418 (318–559)
2008	42	29	22	429 (347–532)
2009	33	26	19	421 (337–564)

ART: antiretroviral treatment. [a] WHO criteria for treatment initiation (2006). [b] WHO criteria for treatment initiation (2009).

captured in analysis when focusing on ART-eligible individuals only.

From a treatment perspective, enhanced pre-ART retention with timely ART initiation could substantially improve ART program outcomes and also play a part in TB control and HIV prevention.[5-7] Moreover, prior to ART an essential package of prevention and care services exists, ranging from prevention of opportunistic infections to family planning, that is currently poorly implemented.[8] On the other hand, health services in resource-limited countries currently have difficulty coping with the burden of providing ART, even though less than half of those in need in these settings have currently initiated ART. Decisions will have to be made as to how to optimally use the available human resources.

In order to strengthen evidence on which to base policy making, more research and programmatic attention needs to be placed on the care for patients that are not yet eligible for ART. This will require comprehensive program monitoring and evaluation strategies that allows integrating and linking different aspects of HIV care besides ART, with HIV testing as the entry-point. We need to better understand the socio-economic, structural and behavioural factors that obstruct retention in care. A recent study suggested strategies to reduce lost to follow up in ART programs to be cost-effective.[9] Similar assessments should be done for pre-ART care.

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Ethical approval: The data included in this analysis constituted part of routine programmatic data. The data collection and informed consent procedure were approved by the institutional review board of the SHCH and the Institute of Tropical Medicine, Antwerp, Belgium.

References

1. Tayler-Smith K, Zachariah R, Massaquoi M, Manzi M, Pasulani O, van den Akker T, et al. Unacceptable attrition among WHO stages 1 and 2 patients in a hospital-based setting in rural Malawi: can we retain such patients within the general health system? *Trans R Soc Trop Med Hyg* 2010;**104**:313–9.
2. Thai S, Koole O, Un P, Ros S, De Munter P, Van Damme W, et al. Five-year experience with scaling-up access to antiretroviral treatment in an HIV care programme in Cambodia. *Trop Med Int Health* 2009;**14**:1048–58.
3. van Griensven J, Shumbusho F, Laurence D, Turate I, Price J., Patient Retention in Pre-ART Care at Rural Health Centers in Rwanda. Presented at the 4th Annual HIV and AIDS Research and Exchange Conference; 2-3 July 2008; Kigali, Rwanda; 2008. http://www.cnls.gov.rw/pdf/recherche/abstract_book.pdf. [accessed 17 July 2010].
4. Iuliano D, Martson B, Miruko F, Muttai H, Williamson J, Brooks J, et al. Trends in Enrolment Characteristics of Patients at a Large HIV Clinic in Kenya 2003 to 2008: Implications for ART Guidelines. Presented at the17th Conference on Retroviruses and Opportunistic Infections, 16-19 February 2010; San Francisco, USA; 2010. http://retroconference.org/2010/Abstracts/37978.htm. [accessed 17 July 2010].
5. Lawn SD, Myer L, Edwards D, Bekker LG, Wood R. Short-term and long-term risk of tuberculosis associated with CD4 cell recovery during antiretroviral therapy in South Africa. *AIDS* 2009;**23**:1717–25.
6. Granich RM, Gilks CF, Dye C, De Cock KM, Williams BG. Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: a mathematical model. *Lancet* 2009;**373**:48–57.
7. Hallett TB, Gregson S, Dube S, Garnett GP. The impact of monitoring HIV patients prior to treatment in resource-poor settings: insights from mathematical modelling. *PLoS Med* 2008;**5**:e53.
8. WHO. Essential prevention and care interventions for adults and adolescents living with HIV in resource-limited settings. Geneva: World Health Organization: 2008. http://www.who.int/hiv/pub/plhiv/interventions/en/index.html. [accessed 17 July 2010].
9. Losina E, Toure H, Uhler LM, Anglaret X, Paltiel AD, Balestre E, et al. Cost-effectiveness of preventing loss to follow-up in HIV treatment programs: a Cote d'Ivoire appraisal. *PLos Med* 2009;**6**: e1000173.

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Attrition of HIV-infected individuals not yet eligible for antiretroviral treatment: why should we care?

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By reporting on additional country experiences, Van Griensven and colleagues add nicely to current discussions on patient attrition from HIV/AIDS programs.[1–3] The shared concern is that among enrolled patients, attrition is unacceptably high for both patients not yet eligible for antiretroviral treatment (ART) (thus waiting to become eligible) and for those already eligible but still waiting for ART. Pre-ART attrition reached levels as high as 49% in Cambodia[1] and 76% in Malawi.[2] The question raised by Van Griensven et al. is, *'Should we care about such pre-ART attrition?'* The answer – undeniably 'yes'. Improving pre-ART attrition in those not yet eligible for ART will give us an opportunity to enhance the uptake of preventive interventions such as cotrimoxazole prophylaxis, Isoniazid Preventive Therapy, family planning and promoting safer sex practices which could impact on HIV transmission. Similarly, for those eligible for ART, enhancing retention should improve the timely initiation of ART which in turn should reduce adverse ART program outcomes, prevent TB and other HIV related morbidity, and reduce HIV transmission.[4] Logically, this should foster a 'healthy cohort effect' favouring task-shifting to reduce waiting lists in settings with high case-loads and a shortage of human resources.[5]

The global community now requires countries to show strong momentum towards reducing HIV/AIDS related mortality by achieving the Millennium Development Goal targets of Universal ART access and reversal of the HIV/AIDS epidemic trend by 2015.[6] An integral part of this effort should be aimed at achieving high retention rates not only among those already on ART but also among those waiting for ART. In this vein, a notable weakness of current evaluations of most HIV/AIDS programs in resource-limited settings is that they are confined to 'on-treatment analysis' which may significantly underestimate overall program attrition and present a skewed picture of program success. As Van Greinsven et al. point out, pre-ART attrition might be related to factors such as unfavourable attitudes of health workers and patients, poor or ill-adapted counseling techniques, repeated appointments, cost-of-transport, relatively long waiting times at the clinic, and unascertained deaths due to severe diseases such as undiagnosed TB and bacteremias/septicemias. High pre-ART attrition is thus a 'red flag' sign reflecting the status of those who have entered the system but then slip through without benefiting from available interventions.

The World Health Organization (WHO) recently revised ART eligibility guidelines aimed at encouraging an earlier start on ART.[7] The direct implication at program level is that there will be larger proportion of patients in the pre-ART waiting line. If the current status-quo is maintained this might lead to a further increase in pre-ART attrition.

So what needs to be done to change this paradigm? First, programs will need to be more inclusive in their program monitoring and should report on: (a) the proportion of enrolled patients who are not yet eligible for ART that are retained (b) the proportion of those who meet the criteria to start ART that eventually do so and (c) attrition that is inclusive of both pre-ART and ART groups. We would strongly encourage the WHO to include such recommendations in their current monitoring and reporting guidelines.[8]

Second, active tracing of those who do not turn up for scheduled appointments is currently only applicable for those who start ART. Thus, when a patient in the preparation phase of ART does not turn up for a scheduled appointment, no action is taken, i.e., this is not reported and existing patient tracing systems make no effort to find them. We suggest (a) to agree on a standardized definition of loss to follow up for those in the pre-ART phase, e.g., 'a patient not seen for one month or more after the date of scheduled appointment', (b) routinely record those who do not turn up for scheduled appointments and (c) ensure that existing and other innovative patient tracing systems (e.g., cell phone calls and SMS reminders)[9] are activated for all enrolled patients (ART-eligible or not) who miss scheduled appointments.

We will only be compelled to act on the problem of high pre-ART attrition if we see it. It is high-time that programs are judged by the rates of retention and attrition among all enrolled patients and not just amongst those who start ART.

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References

1. Thai S, Koole O, Un P, Ros S, De Munter P, Van Damme W, et al. Five-year experience with scaling-up access to antiretroviral treatment in an HIV care programme in Cambodia. *Trop Med Int Health* 2009;**14**:1048–58.
2. Tayler-Smith K, Zachariah R, Massaquoi M, Manzi M, Pasulani O, van den Akker T, et al. Unacceptable attrition among WHO stages 1 and 2 patients in a hospital-based setting in rural Malawi: can we retain such patients within the general health system? *Trans R Soc Trop Med Hyg* 2010;**104**:313–9.
3. Harries A.D ZR, Lawn. D.L, Rosen S., Strategies to improve patient retention on antirteroviral treatment in sub-Saharan Africa. *Trop Med Int Health* 2010; **15**(Suppl1):1-6.
4. Granich RM, Gilks CF, Dye C, De Cock KM, Williams BG. Universal voluntary HIV testing with immediate antiretroviral therapy as a strategy for elimination of HIV transmission: a mathematical model. *Lancet* 2009;**373**:48–57.