HIV

Primary HIV

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A distinct entity requiring distinct counselling

Primary HIV-1 infection (PHI) has again become a hot topic in HIV research. This relates to the lack of consensus on the management of PHI, and partly because studying transmission and the events early in infection may aid the understanding of HIV-1 pathogenesis. As such, clinics are currently actively case finding PHI for participation into randomised control studies, such as the international study, SPARTAC.[1] Identifying cases of PHI is also now easier because of the wider availability of improved diagnostic techniques such as proviral DNA polymerase chain reaction and the detuned antibody assay (B clade only). In addition, it is hoped that with improved public awareness of sexual health, more active HIV testing by clinics and the availability of the rapid HIV test (Pocit), more individuals will regularly test for HIV and any cases of PHI will therefore be detected more easily.

A recent article in the *New England Journal of Medicine* summarised the management of newly diagnosed HIV, but did not specifically mention primary infection.[2] There are, however, particular issues that arise only at PHI; (i) counselling for prognosis, (ii) antiretroviral treatment, and (iii) transmission, which make it important to distinguish from newly diagnosed chronic infection. An appreciation of these factors by all genitourinary medicine physicians is therefore extremely important.

COUNSELLING FOR PROGNOSIS

All new HIV positive patients want a prognosis. At PHI this can be problematic, particularly as the most accurate predictors of clinical outcome—namely, the rate of CD4 decline and the speed to achieving,[3] and magnitude of, viral set point,[4] are not available. The time between diagnosis of PHI and achieving a steady state is unclear and varies greatly between individuals.[3] Other factors such as the severity and duration of seroconversion symptoms,[5–8] in particular fever and neurological involvement,[9 10] a delayed evolution of antibody response,[7] older age,[11] and concurrent infection with both HIV and CMV[12 13] offer little quantitative information and serve only as non-specific indicators of a more rapid disease progression. Baseline CD4 cell count[11] is not useful as PHI represents an extremely dynamic period during which parameters vary considerably.

Citing any HIV cohort data such as MACS[11] or CASCADE[14] at PHI is particularly problematic as individuals presenting at this stage may represent a self selecting population and have a progression profile that is not representative of all HIV infected individuals, especially if they are presenting with symptomatic seroconversion.

ANTIRETROVIRAL TREATMENT

The decision whether to prescribe antiretroviral therapy (ART) at PHI is currently not evidence based and this is reflected in the UK guidelines.[15] Theoretically, considerations when starting ART at this time are either to treat the symptoms of seroconversion or to improve clinical outcome; the role of ART in either situation is debated.[16 17] In our experience treatment of symptoms has rarely been necessary. Such cases are rare and the majority of individuals need reassurance that their symptoms are temporary and are the manifestation of HIV seroconversion rather than being consistent with AIDS or permanent immunosuppression. A low CD4 count itself is not an indication for ART at diagnosis, as it would be expected to start increasing within approximately 3 months.[18]

The use of ART in order to improve clinical outcome remains unproved. Preservation of HIV specific CD4+ immunity in response to ART at PHI has been described but the longevity and relation to clinical outcome is questioned.[19 20] A randomised control study is now under way (SPARTAC) and individuals presenting with PHI should be given the opportunity to participate. Concerns that some individuals are not emotionally able to participate in a study so soon after receiving their HIV positive diagnosis are unfounded in our experience; participation rates have been extremely high, adherence to medication exceptional, and the development of de novo resistant mutations absent.[1] Furthermore, taking part in a clinical trial has the additional benefits of more intensive support over a difficult physical and emotional time.

TRANSMISSION

Issues around HIV transmission are particularly pertinent to address in patients presenting with PHI and do require additional counselling. Many individuals have a clear understanding of whom they may have contracted HIV from and experience feelings of anger and guilt for having allowed themselves to become infected, as well as anger towards the person or persons who they perceive may have infected them. The legal aspects of this situation are complex; however, with genotyping more widely available it is possible that this issue could arise more frequently. Preventing ongoing transmission at PHI is of paramount importance as individuals are hyper-infectious[21] and may contribute disproportionately to the ongoing epidemic.[22 23] Interventions to consider include ART owing to reduce infectiousness, treatment of concomitant STI, and the promotion of immediate changes in sexual behaviour. The former is unevaluated and the latter difficult to achieve.[24]

In conclusion, discussions on prognosis at PHI may be inaccurate and potentially misleading to individuals. Such discussions should therefore be delayed at least until a viral set point has been reached which can take up to a year after seroconversion.[3] Instead, the immediate period following diagnosis may be more effectively used by considering ART as part of a clinical trial (SPARTAC),[1] addressing emotional requirements and to promote immediate changes in sexual behaviours in order to limit onward transmission during this period of hyper-infectiousness.

Key messages

- It is important to identify primary HIV infection to prevent the onward transmission of HIV during this hyper-infectious period
- There is currently no evidence base to either support or refute the prescription of antiretroviral therapy at Primary HIV infection and hence any such individual should be offered a clinical trial to powered to investigate this issue.
- Giving accurate prognostic information at seroconversion is problematic

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This project occurred as a result of 6 years' experience in recruiting individuals diagnosed with primary HIV into an intervention study at St Mary's Hospital that is on going.

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