In the clinical context of antiviral drug resistance, treating physicians need to adopt therapeutic strategies that effectively control viral replication in the first place, but if treatment failure does occur, then a knowledge of cross-resistance is needed in order to tailor appropriate “add-on” therapy. Finally, the role of host genetics in influencing the outcome of HBV disease in the context of natural history and therapy is beginning to aid understanding in pathogenesis and, when this knowledge is linked to pathogen-specific databases, this should translate into more individualised and effective patient care.

CS10.1 Current approaches and potential strategies: Avoid and manage drug resistance

Abstract not available

CS10.2 HBsAg seroconversion as treatment endpoint: Phenomenon and reality

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Abstract not available

CS10.3 A better clinical practice through quantitative HBsAg levels

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Despite the availability of effective vaccines, chronic hepatitis B (CHB) remains a significant health burden worldwide. In clinical fields, hepatitis B surface antigen (HBsAg) has long served as a qualitative diagnostic marker for HBV infection. HBsAg seroclearance is considered the closest-to-cure outcome of hepatitis B virus infection, reflecting immunological control of infection. Recently, retrospective and prospective studies have shown that HBsAg levels change along the natural history of CHB, and that HBsAg levels in patients undergoing antiviral therapy suggest a role for HBsAg quantitation in monitoring response to therapy. There is increasing evidence that baseline HBsAg levels and HBsAg kinetics during antiviral therapy are predictive of treatment result. Notably, advances have been made in the development of quantitative HBsAg assays, which have allowed viral replication monitoring, and there is an opportunity to make maximal use of quantitative HBsAg to elucidate its role in clinical fields. Quantitative HBsAg appear to be very promising as baseline and early on-treatment predictors of sustained viral suppression and HBsAg clearance. Further studies are required to validate the use of these tools.

CS10.4 The cost effectiveness of various strategies for HBV treatment resistance

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Abstract not available

CS12.1 New tools for achieving tuberculosis control

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In order to meet the global target of controlling tuberculosis (TB), much emphasis has been placed on the development of new tools for the purpose, to complement the enhancement of existing programmatic activities in various countries and geographical regions worldwide. The development of new tools can be divided into 4 main areas. The first area is concerned with advances in the diagnosis of TB and rapid assessment of drug susceptibility of the Mycobacterium tuberculosis strains causing the disease. The new tools developed utilize the molecular approach or phenotypic methods. A quite significant recent development has been that of a commercially available tool that rapidly detects the presence of M. tuberculosis in the sputum specimen, alongside performance of drug susceptibility testing, especially to rifampicin. This apparently robust test requires minimal manual skill, and appears readily applicable at the point of care. However, it is clear that the availability of new diagnostic tools does not necessarily equate to their adoption, the translation of policy into practice requires identification of obstacles and their resolution. Regarding the development of new anti-tuberculosis drugs which constitutes the second area, quite a number of new compounds are on the horizon. Several are in Phase II and Phase III of clinical trials. Aside from the rifamycins already in use, the diaryquinoline, nitroimidazoles and the newer fluoroquinolones appear to hold the highest promise for clinical application in TB treatment in the near future. Other potentially useful compounds might include the ethylenediamines and the oxazolidinones. Despite the encouraging progress, there remains the important challenge of lack of global clinical trial capacity to support the new drugs developed to gain timely registration. The third area is clearly related to TB vaccine development. The only TB vaccine available for use today is bacillus Calmette Guerin which needs improvement. There is an urgent need for developing a modern, safe and effective TB vaccine to prevent all forms of disease, in all age groups and among people with HIV infection. Several vaccine candidates are now in Phase II clinical development. The most promising ones appear to be the recombinant forms of BCG, other live mycobacterial vaccines and vaccines based on genetic attenuation of M. tuberculosis. The last area is connected with the development of biomarkers for monitoring disease activity and predicting the outcome of TB treatment. The advancement in this area has been relatively tardy. Hopefully a combination of biomarkers might address the issue better. It is clear that much more work is still required here. Thus the past decade has witnessed a renaissance of activities in the development of new tools for achieving TB control globally. The fruitful outcome of these activities have furnished high hopes for better control of TB, the formidable foe of mankind, in the decade to come.

CS12.2 Recent advancements in diagnosis of TB

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Efforts to control the global TB epidemic have been hampered by the lack of accurate and rapid diagnostic