Rising Syphilis Positivity in Blood Donors: A Review of Our Experience and Strategies for Mitigation

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Introduction

Syphilis, a sexually transmitted infection caused by Treponema pallidum, remains a significant public health concern due to its potential for transmission through blood transfusion [1]. The rise in syphilis cases among blood donors poses a critical challenge to transfusion safety [2].

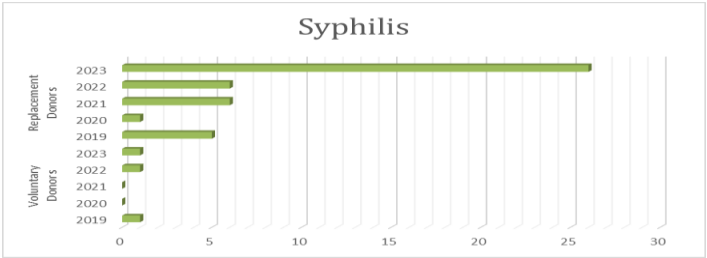
Methods

We conducted a retrospective analysis of syphilis testing data from our blood centre between 2019 an 2023. Donor demographics, syphilis testing results (using rapid plasma reagin (RPR) and Treponema pallidum particle agglutination (TPPA) assays, and transfusion transmission risks were evaluated.

Results

Our analysis revealed: Out of 11,924 blood donors screened for transfusion transmitted infections, 47 donors were sero-reactive for syphilis, while one donor had syphilis with human immunodeficiency virus (HIV) infections. Prevalence of syphilis was more in replacement donors than voluntary donors and was in raising trend.

Table 2: Sero-reactivity among Blood Donors



Prevalence year-wise	2019	2020	2021	2022	2023	Total
HIV	03	03	03	02	02	13 (0.1%)
HBV	52	23	27	2	31	158(1.32%)
HCV	09	20	05	01	05	40(0.33%)
Syphilis	06	01	06	07	27	47(0.39%)
MP	00	01	00	00	00	01
Total	70	48	41	35	65	259

Discussion

Global trends indicate rising syphilis incidence [1]. Enhanced donor screening and prevention strategies are crucial [2]. Our findings support the need for updated deferral policies and public awareness campaigns.

Strategies for Mitigation

1. Enhanced donor screening: Implementing more sensitive testing assays and behavioral risk assessments
2. Public awareness campaigns: Educating donors and the general public about syphilis risks and prevention.
3. Updated deferral policies: Updating policies to reflect changing syphilis epidemiology.
4. Blood testing algorithms optimization: Optimizing testing protocols to minimize false positives and negatives.
5. Collaboration with public health authorities: Sharing data and best practices to inform syphilis control efforts. [3]

Conclusion

Rising syphilis positivity among blood donors necessitates enhanced screening and prevention strategies. Implementation of these measures will minimize transfusion transmission risks and ensure blood safety[4].

References

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