Audit of Beaumont Hospital ED to ID PEP Pathway including management of CANSI (community acquired needlestick injuries)

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BACKGROUND

We have observed a slight uptrend in referrals to Infectious Diseases clinic for HIV post-exposure prophylaxis (PEP) following community-acquired needle stick injuries (CANSI). From our experience, there has been some variance in management with some patients being prescribed HIV post-exposure prophylaxis when not indicated and some not given HBV post-exposure prophylaxis when potentially indicated. We aimed to gather objective data on the assessment and management of community-acquired needle stick injuries with a view to optimising patient safety and outcomes.

METHODS

We conducted a retrospective chart review of referrals to Beaumont Hospital Infectious Diseases Clinic for BBV PEP from September 2021 to February 2022. A descriptive analysis was performed.

RESULTS

Data was collected on 34 referrals made for PEP management to Beaumont ID between September 2021 and February 2022.
Mean age was 29 (IQR 16-57).
The majority of exposures were needlestick injuries (n=16, 47%) followed by UPSI (n=14, 41%). Other exposures included human bites (n=2, 6%) and other (n=2, 6%).
HIV PEP was indicated in 14 cases and was prescribed in 100% of these.
However, PEP was prescribed in 7 cases where it was not indicated, i.e >72hrs post exposure or not significant risk.
HBV vaccination was indicated in 85% of cases and given appropriately in ED in all. However, one patient received HBIG when HBV was indicated as post-exposure prophylaxis.

CHARACTERISTICS OF INJURIES		N=34
Age (years) Mean +/- standard deviation		29 years +/- 12.4 years
Sex	Male	20 (59%)
	Female	14 (41%)
Source Known	Yes	16 (47%)
	No	18 (53%)
Type of Exposure	NSI	16 (47%)
	UPSI	14 (41%)
	Human Bite	2 (6%)
	Other	2 (6%)
Significant Mechanism of injury (i.e. skin penetrated by needle)	Yes	28 (82%)
	No	4 (12%)
	Unknown	2 (6%)
High Risk Material involved (blood on needle or in syringe)	Yes	19 (56%)
	No	9 (26%)
	Unknown	6 (18%)
Accidental injury with discarded needle (if NSI)	Yes	4 (25%)
	No	12 (75%)
NSI from deliberate assault (if NSI)	Yes	10 (63%)
	No	6 (37%)
If NSI not witnessed, evidence of needlestick mark on body	Yes	8 (80%)
	No	2 (20%)
Within 72hrs exposure at time of ED review	Yes	28 (82%)
	No	6 (18%)
Exposure considered significant by ED	Yes	24 (71%)
	No	10 (29%)

HIV PEP was prescribed inappropriately in 7 cases where not indicated (35%). Risk was not deemed >1/1000 in 3 cases and exposure was >72hrs in 4 cases.
One of these 4 cases was 2/52 post exposure.
Prescription of HIV PEP in ED was variable and generally poorly documented.
Informed consent was not obtained and documented prior to starting HIV PEP in 66% of cases.

Management in ED		N=34
HBV vaccine indicated **(Administered in all cases)**	Yes	29 (85%)
	No	5 (15%)
Tetanus vaccine indicated	Yes	10 (29%)
	No	24 (71%)
Tetanus vaccine given where indicated	Yes	7 (70%)
	No	3 (30%)
HIV PEP indicated (risk >1/1000 or known HIV positive/suspected high risk source)	Yes	14 (41%)
	No	20 (59%)
HIV PEP prescribed where indicated	Yes	14 (100%)
	No	0 (0%)
HIV PEP prescribed where not indicated	Yes	7 (35%)
	No	13 (65%)
Time between exposure and first dose of HIV PEP?	<72hr	17 (81%)
	>72hr	4 (19%)
Advised no UPSI for 3 months (those prescribed PEP)	Yes	3 (14%)
	No	18 (86%)
HIV PEP information leaflet provided	Yes	5 (24%)
	No	16 (76%)

All patients who were prescribed PEP were seen in ID clinic within 2 weeks. The mean time was 13 days +/- 15.2 days.
HIV PEP was continued in 14 (82%) of patients referred to the ID clinic from ED.
HIV PEP was discontinued in 3 (18%) once seen in ID clinic. This was always due to the first dose being given inappropriately beyond the 72 hour window. Unfortunately, 4 patients did not attend for follow-up.
HBV accelerated vaccination course for HBV PEP was indicated in 58% of cases. However, the accelerated course of 0,1 and 2 months was only adhered to in 4 cases (24%).
9 people had 3 month follow-up bloods in ID clinic. Of these, none underwent BBV seroconversion.

CONCLUSIONS

Community acquired needle stick injuries represent a significant proportion of PEP prescriptions.
There is a knowledge deficit on injury risk stratification, PEP indications and management, and baseline investigations are not being done appropriately.
Adherence to accelerated course of HBV vaccination for HBV PEP is poor.

RECOMMENDATIONS

Targeted education intervention with ED and ID teams.
Establish online proforma to include all necessary investigations and steps to be undertaken in ED.
Develop patient information leaflet for PEP.

REFERENCES

1. Health Protection Surveillance Centre. 2018. Guidelines for the Emergency Management of Injuries (including needlestick and sharps injuries, sexual exposure and human bites) where there is a risk of transmission of bloodborne viruses and other infectious diseases. Available at http://www.hpsc.ie/A-Z/EMIToolkit/

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