Leitlinien der Deutschen Gesellschaft für Suchtmedizin (DGS e.V.), der Deutschen AIDS-Gesellschaft (DAIG) und der Deutschen Arbeitsgemeinschaft niedergelassener Ärzte (DAGNÄ):
HIV-Infektion bei intravenös Drogenabhängigen (IVDA)

Konsensustext zur Abstimmung am 5. Juli 2008 auf dem 9. Interdisziplinären Kongress für Suchtmedizin in München

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Zu den folgenden Fragen sollte Stellung bezogen werden:

1. Wie hoch sind Prävalenz und Inzidenz der HIV-Infektion unter IVDA?

2. Welche Diagnostik ist notwendig?

3. Wann sollen IVDA mit einer HIV-Infektion antiretroviral behandelt werden?

4. Gibt es Besonderheiten bei der Initialtherapie?

5. Wie soll bei psychiatrischer Komorbidität vorgegangen werden?

6. Welche Wechselwirkungen sind zu beachten?

7. Gibt es speziell zu beachtende Nebenwirkungen?

Tabelle: Evidenzgrade zur Bewertung von Studien - Empfehlungsklasse

A	Ia	Evidenz aufgrund von Metaanalysen randomisierter, kontrollierter Studien

	Ib Evidenz aufgrund von mindestens einer randomisierten, kontrollierten Studie
B	IIa Evidenz aufgrund von mindestens einer gut angelegten, kontrollierten Studie ohne Randomisierung IIb Evidenz aufgrund mindestens einer anderen Art von gut angelegter, quasiexperimenteller Studie III Evidenz aufgrund gut angelegter, nichtexperimenteller, deskriptiver Studien wie z. B. Vergleichsstudien, Korrelationsstudien und Fallkontrollstudien
C	IV Evidenz aufgrund von Berichten von Expertenausschüssen oder Expertenmeinungen und/oder klinischen Erfahrungen anerkannter Autoritäten; Fehlen direkt anwendbarer klinischer Studien guter Qualität

Der Textentwurf wurde aufgrund der Literaturrecherche, den Vorträgen und Diskussionsbeiträgen des Expertentreffens am 5. April 2008 in Köln von der Arbeitsgruppe und den von den Experten zu verschiedenen Themen publizierten Artikel formuliert.

Vorträge auf der Expertentagung zur Erstellung der Leitlinien für HIV bei Drogenkonsumenten am 5. April 2008 in Köln:

Epidemiologie	Ulrich Marcus, Berlin
Diagnostik	Günther Schmutz, Düsseldorf
Strategien der Initialtherapie	Milo Huber, Zürich
Wechselwirkungen	Hartmut Klinker, Würzburg
Differentialtherapie bei psychiatrischer Komorbidität	Jens Reimer, Hamburg
Nebenwirkungen	Georg Behrens, Hannover
Patientenmanagement	Birger Kuhlmann, Hannover

Publizierte Artikel der Experten in Suchtmedizin in Forschung und Praxis 2008; 10 (S1):

Methodik	Markus Backmund, Ramona Pauli-Volkert, München
HIV bei intravenös Drogengebrauchern	Ulrich Marcus, Berlin
Diagnostik bei HIV-infizierten i.v. Drogenkonsumenten	Günther Schmutz, Düsseldorf
Strategien zur Initialtherapie	Milo Huber, Zürich
Differentialtherapie bei psychiatrischer Komorbidität	Michael Krausz, Vancouver
Wechselwirkungen zwischen antiretroviraler Therapie (ART) und Substitutionsmedikamenten	Harald Klinker, Würzburg
Nebenwirkungen der antiretroviralen Therapie bei drogenabhängigen HIV-Patienten	Georg Behrens, Hannover
Management von opioidabhängigen Patienten bei antiretroviraler Therapie (ART)	Birger Kuhlmann, Hannover

Konsensustextentwurf:

Dem Text liegen nachstehende Definitionen und Begriffe zugrunde:

- „intravenös Drogenabhängige“ (IVDA) meint alle Patienten, die früher intravenös Drogen konsumiert haben oder aktuell konsumieren.

- Definition von integriertem Setting: intaktes Netzwerk von psychiatrisch und infektiologisch erfahrenen Suchtmedizinern möglichst an einem Ort.

Einleitung

Hinsichtlich der Diagnostik und Therapie der HIV-Infektion werden die jeweils bestehenden Deutsch-Österreichischen Leitlinien sowie die europäischen Leitlinien der European AIDS Clinical Society zur Behandlung der HIV-Infektion bei Erwachsenen zu Grunde gelegt.
Bei Initialtherapie werden derzeit die europäischen Leitlinien herangezogen.

Fragestellungen

1
Wie hoch sind Prävalenz und Inzidenz der HIV-Infektion unter IVDA?
Welche Präventionsmassnahmen sind sinnvoll?

Empfehlung

Die Aufklärung von IVDA über die Verhinderung von HIV- und Hepatitis B und C-Infektionen muss sowohl „safer use" als auch „safer sex" beinhalten
(A).

Eine niedrigschwellige Verfügbarkeit von sterilen Injektionsutensilien wie z.B. über Nadel-Spritzen-Austauschprogramme reduziert die HIV-Inzidenz unter Drogenabhängigen und sollte flächendeckend und auch in Haftanstalten angeboten werden (A).

Die Substitutionsbehandlung verhindert HIV-Neuinfektionen unter IVDA und soll als Kassenleistung flächendeckend angeboten werden (A).

Konsens: 1. Satz 100%, 2. Satz 96,2%, 3. Satz 100%

Erläuterung

Repräsentative nationale oder regionale Studien zur Prävalenz und Inzidenz von Infektionen mit HIV und Hepatitis B- und C-Viren bei IVDU wurden in Deutschland bislang nicht durchgeführt. Alle Daten zur Prävalenz und Inzidenz beziehen sich daher auf mehr oder weniger stark selektierte Subpopulationen oder es handelt sich um Schätzungen.
Die Angaben zur HIV-Prävalenz unter IVDA sind je nach Untersuchungspopulation und Region sehr unterschiedlich (A). In Deutschland betragen sie zwischen 5% in München und 50% in Haftanstalten in Berlin (B).
Das Robert Koch-Institut schätzt die Gesamtzahl der aktuell mit HIV in Deutschland lebenden Personen, die sich im Kontext von intravenösem Drogenkonsum mit HIV infiziert haben, auf derzeit ca. 7.000 Personen. Der Nenner, auf den diese Zahl bezogen werden müsste, ist nicht klar quantifizierbar. Nicht alle Personen, die sich im Kontext von intravenösem Drogenkonsum mit

HIV infiziert haben, sind auch aktuell noch aktive Drogenkonsumenten, und zur Gesamtzahl der aktiv intravenös Drogen konsumierenden Personen in Deutschland liegen unterschiedliche Schätzungen vor. Die Zahl der HIV-Neuinfektionen pro Jahr, die auf intravenösen Drogenkonsum zurückzuführen sind, wird auf aktuell knapp über 200 geschätzt. Ein Teil dieser Infektionen könnte allerdings auch durch sexuelle Übertragungen bedingt sein.
In besonders stark betroffenen Regionen osteuropäischer Länder wurden in lokalen Populationen von aktiven Drogenkonsumenten HIV-Prävalenzraten von bis zu über 90% beschrieben (B). Weltweit betreffen 10% aller HIV-Neuinfektionen IVDU, in Deutschland sind es aktuell ca. 7% (B). In osteuropäischen und asiatischen Ländern wird die HIV-Epidemie wesentlich durch IVDA vorangetrieben (B).
Weltweit wird die Zahl von IVDA auf 13 Millionen Menschen geschätzt (Aceijas et al. 2004). HIV-Epidemien, die durch IVDA vorangetrieben werden, sind vor allem in Osteuropa, Zentralasien, Südostasien und China zu beobachten (Platt et al. 2006, UNAIDS 2006, Dehne et al. 1999). In Deutschland ist die Gruppe der IVDA seit mehr als 10 Jahren mit 13% die viertgrößte Gruppe hinsichtlich Neuinfektionen (Hamouda et al. 2007). Das gemeinsame Benutzen von Nadeln und Spritzen birgt das größte Risiko einer HIV-Transmission bei IVDA und kann effektiv durch Spritzen und Nadel-Austauschprogramme vermindert werden (Johnson et al. 2002, WHO 2007). Zusätzlich sind IVDU durch sexuelle Übertragung des HI-Virus gefährdet, insbesondere dann, wenn sich die HIV-Infektion in der IVDU-Population etabliert hat und/oder durch erhöhtes Risikoverhalten nach Drogeneinnahme (Backmund et al. 2005, DesJarlais et al. 2005, Bolding et al. 2006, RKI 2006, Neaigus et al. 2007, Marcus 2008).

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2
Welche Diagnostik ist notwendig?

Empfehlung

Die Anamnese muss die Einnahme psychotroper Substanzen im Verlauf beinhalten (A).

Die Anamnese muss den aktuellen Konsum psychotroper Substanzen beinhalten (A).

Psychische Beschwerden müssen wegen der hohen Komorbidität psychiatrischer Krankheiten evaluiert werden (A).

Es muss überprüft werden, ob sich die Patientin/der Patient in einer Substitutionsbehandlung befindet oder nicht (A).

Die Angaben sollten durch ein Drogenscreening im Urin verifiziert werden (A).

Beim Erstkontakt muss der Hepatitis A-, Hepatitis B- und Hepatitis C- Status überprüft werden (A).

Patienten mit HIV-Infektion haben gemäß den Empfehlungen der STIKO eine Indikation für die Impfung gegen Hepatitis A und B sowie Pneumokokken, Menigokokken und Influenza (A).

Einmal jährlich muss der Hepatitis C- Status überprüft werden (A). Bei nicht oder nicht ausreichend Geimpften und noch Suszeptiblen muss der Hepatitis A- und B- Status einmal jährlich überprüft werden (A).

Konsens: 1. – 4. Satz, 7., 8. Satz jeweils 100%, 5., 6.Satz 92%

Erläuterung

Prinzipiell soll gemäß den bestehenden HIV-Leitlinien diagnostiziert werden, die in der Regel eine umfassende Anamnese und die Erhebung des körperlichen und psychischen Status beinhalten (Deutsch-Österreichische AIDS-Gesellschaft 2008, Panel on Antiretroviral Guidelines for Adults and Adolescents 2008). IVDA leiden sehr häufig zusätzlich an psychiatrischen Erkrankungen (Krausz 2008, Krausz et al. 1998).

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3
Wann sollen IVDA mit einer HIV-Infektion antiretroviral behandelt werden?

Empfehlung

Ehemalige IVDA und IVDA, die sich in einer stabilen Substitutionsbehandlung befinden, sollen nach den gleichen Kriterien und zum gleichen Zeitpunkt wie Nicht-IVDA eine antiretrovirale Therapie erhalten (A.)

Bei IVDA, die sich in einer nicht stabilen Substitutionsbehandlung befinden (Termine nicht zuverlässig einhalten können, unregelmäßig kommen) soll vor einer antiretroviralen Therapie u.a. mit Hilfe der psychosozialen Betreuung versucht werden, die Patientin/den Patienten in eine stabile Substitutionsbehandlung zu bringen (A).

IVDA, die keine Substitutionsbehandlung erhalten, sollen vor Beginn einer HIV-Therapie in eine stabile Substitutionsbehandlung gebracht werden (A). IVDA, die eine HIV-Therapie wünschen, bei denen die Indikation zu einer solchen besteht und die keine Substitutionsbehandlung wünschen, ist eine HIV-Therapie anzubieten (A).

Konsens: 1., 2. Satz 100%, 3. Satz 85,5%

Erläuterung

Alle anerkannten Behandlungsrichtlinien empfehlen für IVDA keinen abweichenden Behandlungszeitpunkt für den Beginn einer antiretroviralen Therapie (ART) (European AIDS Clinical Society 2007, (Deutsch-Österreichische AIDS-Gesellschaft 2008, Panel on Antiretroviral Guidelines for Adults and Adolescents 2008, WHO 2007). Sie weisen darauf hin, dass eine gute Therapieadhärenz angestrebt werden soll (Deutsch-Österreichische AIDS-Gesellschaft 2008, Panel on Antiretroviral Guidelines for Adults and Adolescents 2008, WHO 2007). Das beste Setting für die Behandlung chronischer Erkrankungen bei IVDA stellt die Substitutionsbehandlung dar (Backmund et al. 2001, Backmund et al. 2005, Backmund 2007).. Allen HIV-Patienten soll bei entsprechender Indikation eine HIV-Therapie angeboten bzw. ermöglicht werden (WHO 2007, Panel on Antiretroviral Guidelines for Adults and Adolescents 2008).

In der Fachwelt ist unbestritten, dass ein Immunstatus mit weniger 200 CD4-Zellen/µl eine dringliche Indikation zur antiretroviralen Therapie darstellt (Übersicht bei Hoffmann et al. 2007, Huber 2008, Deutsch-Österreichische AIDS-Gesellschaft 2008). Symptomatische Patientinnen und Patienten und schwangere Patientinnen sollten unabhängig von der CD4-Zellzahl therapiert

werden, wobei eine opportunistische Infektion in der Regel vor Beginn der antiretroviralen Therapie behandelt werden muss, um ein Immunrekonstitutions-Syndrom (IRIS) zu verhindern.

Tabelle	CDC-Klassifikation		
CD4-Zellen/µl	A asymptomatisch	B Spezifische Symptome, kein AIDS	C Spezifische Symptome, AIDS
1: >=500	A1	B1	C1
2: 200-499	A2	B2	C2
3: <200	A3	B3	C3

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Tabelle	Antiretroviraler (ART) Therapiebeginn		
CDC-Klassifikation	CD4-Zellen/µl	Viruslast Kopien/ml	Entscheidung
CDC A	> 500	unabhängig	abwarten
CDC A	> 350 – 500	> 100.000	anbieten
CDC A	> 350 – 500	< 100.000	anbieten, wenn HCV-Koinfektion,
>55Jahre oder CD4-Abfall >50-100/µl/Jahr			
CDC A	200 – 350	unabhängig	empfehlen
CDC A	< 200	unabhängig	dringend empfehlen
CDC B, C	unabhängig	unabhängig	empfehlen

Quelle: European AIDS Clinical Society 2007

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4
Gibt es Besonderheiten bei der Initialtherapie?

Empfehlung

Bei der Auswahl des antiretroviralen Therapieregimes ist die Adhärenz des Patienten/in zu berücksichtigen.

Bei IDVA ohne stabile Substitution soll ein ART-Regime gewählt werden, dass nur einmal täglich eingenommen werden muss (C).

Die ART sollte direkt vor dem Substitutionsmittel unter Sicht des Arztes/medizinischen Personals eingenommen werden (A).

Konsensus: 1., 2. Satz 100%, 3. Satz 88,6%

Erläuterung
Da während der Substitutionsbehandlung in der Regel die Patientinnen und Patienten täglich vom Arzt oder dem medizinischen Personal gesehen werden, kann eine Koppelung der Einnahme der ART an die Substitutionsmittelvergabe zu einer sehr hohen Adhärenz führen (Backmund et al. 2001, , Conway et al. 2004, Lucas et al. 2004, Altice et al. 2007, Backmund 2008, Viciana et al. 2008).

Tabelle: Medikamente für die HIV-Therapie bei Opioidabhängigen (aus Backmund 2008)

Abkürzung	Substanz	Medikament	Dosis
1. Einmal tägliche Gabe möglich:			
TDF	Tenofovir DF	Viread®	1 x 300 mg
FTC	Emtricitabin	Emtriva®	1 x 200 mg
EFV	Efavirenz	Sustiva®	1 x 600 mg
TDF/FTC	TVD	Truvada®	1 x 300/200 mg
TDF/FTC/EFV	ATR	Atripla®	1 x 300/200/600 mg
ABC/3TC		Kivexa	1x 600/300 mg
3TC	Lamivudin	Epivir®	1 x 300 mg
ddI	Didanosin	Videx®	1 x 250 oder 400 mg
d4T	Stavudin	Zerit® XR	1 x 075 oder 100 mg
ATV	Atazanair	Reyataz®	1 x 300 mg[1, 2]
2. Zweimal tägliche Gabe möglich			
AZT	Zidovudin	Retrovir®	2 x 250 mg
d4T		Zerit	2 x 30 bzw 40 mg
ABC	Abacavir	Ziagen®	2 x 300 mg
AZT/3TC	CBV	Combivir®	2 x 300/150 mg
AZT/3TC/ABC	TZV	Trizivir®	2 x 300/150/300 mg
NVP	Nevirapin	Viramune®	1 x 200 mg, nach 14 Tagen 2 x 200 mg

LPV/r	Lopinavir/Ritonavir	Kaletra®	2 x 200/50 mg
SQV	Saquinavir	Invirase® 500	2 x 500 mg[2]
fAPV/r	Fosamprenavir	Telzir®	2 x 700 mg[2]
TPV	Tipranavir	Aptivus®	2 x 250 mg[2]
DRV	Darunavir	Prezista®	2 x 300 mg[2]
ENF	Enfuvirtid	Fuzeon®	2 x 1 ml à 90 mg s.c.
RAL	Raltegravir	Isentress®	2 x 400 mg[1]
MVC	Maraviroc	Celsentri®	2 x 300 mg[3]

[1]bei vorbehandelten Patienten; [2] Boostern mit je 100 mg RTV; [3] nur bei CCR5-Tropismus

Die europäischen Leitlinien zur antiretroviralen Initialtherapie empfehlen Tenofovir und Emtricitabin oder Abacavir und Lamivudin in Kombination mit Efavirenz oder Nevirapin oder geboostertem Fosamprenavir oder Lopinavir oder Saquinavir (European AIDS Clinical Society 2007). Bei Patienten mit replikativer Hepatitis B sollte Tenofovir/Emtricitabin Bestandteil der ART sein.

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5

Wie soll bei psychiatrischer Komorbidität vorgegangen werden?

Empfehlung

Der bei der initialen Diagnostik erhobene psychopathologische Befund soll im Verlauf kontrolliert werden (C).

Psychiatrische Erkrankungen wie bipolare Störungen und Erkrankungen aus dem schizophrenen Formenkreis müssen medikamentös und psychotherapeutisch behandelt werden (A).

Antidepressiva der ersten Wahl sind SSRI, insbesondere Citalopram und Escitalopram (C).

Zur Behandlung der Schizophrenie sollten primär atypische Neuroleptika eingesetzt werden (C).

Konsens: 1. Satz 96,2%, 2. Satz 92,3%, 3. Satz 87%, 4. Satz 85,7%

Erläuterung
IVDA leiden sehr häufig zusätzlich an psychiatrischen Erkrankungen (Krausz 2008, Krausz et al. 1998). Inwieweit Antidepressiva und/oder Neuroleptika bei gleichzeitiger Gabe von Opioiden wirken, ist noch kaum untersucht worden. Die wenigen Studien kommen zu unterschiedlichen Ergebnissen. Citalopram allein oder in Kombination mit Bupropion scheint bei mit Methadon behandelten Patienten hinsichtlich der Therapie der Depression nicht erfolgreich zu sein (Poling et al. 2007). Eine ältere Arbeit zeigte keine Wirkung von Fluoxetin in der Therapie depressiver Patienten während einer Methadonsubstitutionsbehandlung (Petrakis et al. 1998). Eine neuere Arbeit konnte hingegen zeigen, dass eine Reduktion des Benzodiazepinkonsums bei Steigerung der Psychopharmakotherapie zu einer Verminderung der depressiven Symptomatik bei mit Methadon behandelten Patienten führte (Schreiber et al. 2008). Auch für die Behandlung suchtkranker Menschen, die zusätzlich an einer Psychose erkrankt sind, liegen praktisch keine randomisierten Studien vor. Empfohlen wird der Einsatz von atypischen Neuroleptika, z.B. von Clozapin und Quetiapin (Potvin et al. 2006, San et al. 2007, Hanley et Kenna 2008).

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6
Welche Wechselwirkungen sind zu beachten?

Empfehlung

IVDA, die im Rahmen einer Substitutionsbehandlung antiretroviral behandelt werden, müssen engmaschig auf Entzugs- und/oder Intoxikationssymptome beobachtet werden (A).

Bei Auftreten von Entzugs- und/oder Intoxikationssymtomen muss die Dosis des Substitutionsmittels angepasst werden (A).

Konsens: Beide Sätze 100%

Erläuterung
Sowohl Methadon als auch Buprenorphin werden über das Cytochrom P450-System metabolisiert. Bei der HIV-Therapie müssen daher die Interaktionen von Methadon und Buprenorphin beachtet werden. Es kann zu Enzyminduktion und Enzyminhibition kommen. Je nachdem kann dies dazu führen, dass das eine Medikament überdosiert und das andere unterdosiert ist (Übersicht bei Klinker 2008, Tabelle 1 und 2). Vor allem die Wechselwirkungen zwischen Methadon und den beiden Nicht Nukleosidischen Reverse Transkriptase Inhibitoren (NNRTI) Efavirenz und Nevirapin müssen berücksichtigt werden. Pharmakologische und klinische Studien haben gezeigt, dass es zu einer deutlichen Wirkminderung von Methadon kommen kann (Altice et al. 1999, Ottero et al. 1999, Clarke et al. 2001, Marzolini et al. 2000, Clarke et al. 2001). Dadurch können nach wenigen Tagen Entzugssymptome entstehen. Um diese zu verhindern, muss die Methadondosis teilweise um bis zu 50% gesteigert werden (Ottero et al. 1999, Khara et al. 2007, Klinker 2008).

Tabelle 1:
Metabolismus von Opioid-Agonisten und antiretroviralen Substanzen (Klinker 2008)

Substanz	Kürzel	Metabolismus
Nukleosidische Reverse Transkriptase Inhibitoren	**NRTI**	
Abacavir, Azidothymidin, Didanosin, Emcitricitabin, Lamivudin, Stavudin, Tenofovir	ABC, AZT, DDI, FTC, 3TC, D4T, TDF	Glucuronidierung, renale Elimination, unwesentliche Beteiligung mikrosomaler Enzyme
Nicht Nukleosidische Reverse Transkriptase Inhibitoren	**NNRTI**	
Efavirenz	EFV	CYP3A4, CYP2B6
Nevirapin	NVP	CYP3A4, CYP2B6, CYP2D6
Protease-Inhibitoren	**PI**	
Atazanavir	ATV	CYP3A4
Darunavir	DRV	CYP3A4
Fosamprenavir	FPV	CYP3A4
Indinavir	IDV	CYP3A4
Lopinavir	LPV	CYP3A4
Saquinavir	SQV	CYP3A4
Ritonavir	RTV	CYP3A4, CYP2D6
Tipranavir	TPV	CYP3A4
Fusions-Inhibitoren	**FI**	
Enfuvirtide		Desaminierung
CCR5-Korezeptor-Inhibitoren	**CCR5-I**	
Maraviroc		CYP3A4,CYP2C9, CYP2C19, CYP2D6
Integrase-Inhibitoren	**II**	

Raltegravir		Glucuronidierung (UGT1A1)
Opioid-Agonisten		
Methadon		CYP3A4, CYP2B6, CYP2C8, CYP2C19, CYP2D6
Buprenorphin	BUP	CYP3A4

Tabelle 2:
Interaktionen zwischen antiretroviralen Wirksubstanzen und Opioid-Aganisten
(Ø = kein Effekt, n. u. = nicht untersucht, C_{max} = maximale Konzentration, AUC = Area under Curve = Fläche unter der Konzentrations-Zeit-Kurve, NRTI = Nukleosidischer Reverse Transkriptase Inhibitor, NNRTI = Nicht Nukleosidischer Reverse Transkriptase Inhibitor, PI = Protease-Inhibitor, FI = Fusions-Inhibitor, CCR5-I = CCR5-Korezeptor-Inhibitor, II = Integrase-Inhibitor) (Klinker 2008)

ART-Substanz	Effekt auf Methadon	Effekt auf BUP	Effekt auf ART-Substanz	Kommentar
NRTI				
Abacavir	Clearance ↑	n. u.	C_{max} ↓	Ursache?, keine klinische Relevanz
Azidothymidin	Ø	Ø	AUC ↑ 40%	Evtl. erhöhte AZT-Toxizität
Didanosin	Ø	n. u.	AUC ↓ 37%	Eher keine klinische Relevanz
Emcitricitabin	n. u.	n. u.	n. u.	
Lamivudin	Ø	n. u.	n. u.	
Stavudin	Ø	n. u.	AUC ↓ 23%	Keine klinische Relevanz
Tenofovir	Ø	n. u.	n. u.	
NNRTI				
Efavirenz	AUC ↓ 57%	AUC ↓ 50%	n. u.	Methadon: Oft Entzugssymptome, Dosiserhöhung notwendig BUP: Entzugssymptome selten
Nevirapin	AUC ↓ 46%	n. u.	Ø	Methadon: Oft Entzugssymptome, Dosiserhöhung notwendig
PI				
Atazanavir	Ø	AUC ↑ signifikant	n. u.	BUP: Überdosierungserscheinungen möglich, ggf. BUP-Dosierung ↓
Darunavir	Methadon- Konz. ↓ 16%	n. u.	n. u.	Keine klinische Relevanz
Fosamprenavir	n. u.	n. u.	n. u.	
Indinavir	Widersprüchliche Daten	n. u.	Cmax ↓ 16-28%	Eher keine klinische Relevanz
Lopinavir	Methadon-Konz. ↓ 40%	Kein signifikanter Effekt	n. u.	Methadon: Entzugssymptome möglich, ggf. Dosiserhöhung
Saquinavir	AUC ↓ 20-32%	n. u.	n. u.	Eher keine klinische Relevanz
Ritonavir	Widersprüchliche Daten	AUC ↑ signifikant	n. u.	BUP: Überdosierungserscheinungen möglich, ggf. BUP-Dosierung ↓
Tipranavir	Methadon-Konz. ↓ 50%	n. u.	n. u.	Methadon: Entzugssymptome möglich, ggf. Dosiserhöhung
FI				
Enfuvirtide	n. u.	n. u.	n. u.	
CCR5-I				

Maraviroc	n. u.	n. u.	n. u.	Interaktionen nicht auszuschließen
II				
Raltegravir	n. u.	n. u.	n. u.	

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7
Gibt es speziell zu beachtende Nebenwirkungen?

Empfehlung

Die frühen Nebenwirkungen sind bei der Therapie von IVDU ähnlich wie bei anderen Patienten zu erwarten (C).

Die Hepatotoxizität verschiedener HIV-Medikamente muss vor allem bei den sehr häufig HCV-koinfizierten IVDU berücksichtigt werden (C).

Konsensus: 1. Satz 95,8%, 2. Satz 100%.

Erläuterung
Generell wurde in den letzten Jahren darauf geachtet, die Nebenwirkungen zu therapieren um die Adhärenz zu erhöhen. 90% der HIV-infizierten IVDU sind HCV-koinfiziert. ( ). Ob bestimmte Medikamente wie zum Beispiel Nevirapin oder aber die HIV-Therapie insgesamt die Progression einer Leberfibrose bei HIV/HCV –infizierten Patienten begünstigt, unbeeinflusst lässt oder aber verhindert, wird in der wissenschaftlichen Literatur noch kontrovers diskutiert (Macias et al. 2006, Berenger et al. 2008, Macias et al. 2004, Qurishi et al. 2003). Zu berücksichtigen ist, dass die HCV-bedingte Mortalität bei guter Behandlung der HIV-Infektion bei IVDU in den Vordergrund rückt ( ).
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