Bir olgu eşliğinde: HIV ile yaşayan hastada bağışıklama

EKMUD İstanbul Günleri 6 Ekim 2018
Özel Konak'ta bağışıklama, Olgular eşliğinde

Dr. Servet ÖZTÜRK
Fatih Sultan Mehmet Eğitim ve Araştırma Hastanesi
Enfeksiyon Hastalıkları ve Klinik Mikrobiyoloji Kliniği

Olgu

- 45 yaş
- Erkek

Şikayet

- Ateş yüksekliği
- Kilo kaybı
- Kuru öksürük

Öykü

- Kronik hastalık yok
- İlaç kullanım yok
- Uyuşturucu-uyarıcı madde kullanımı yok
- Sigara: 20 paket/yıl
- Alkol: Sosyal içici
- Cinsel tercih: MSM
- Soygeçmiş: Özellik yok

Fizik Muayene

- Oral candidiazis
- Servikal-aksiller-inguinal milimetrik lenfadenomegali
- Solunum muayenesinde bilateral bazal raller mevcut
- Diğer sistem muayeneleri normal

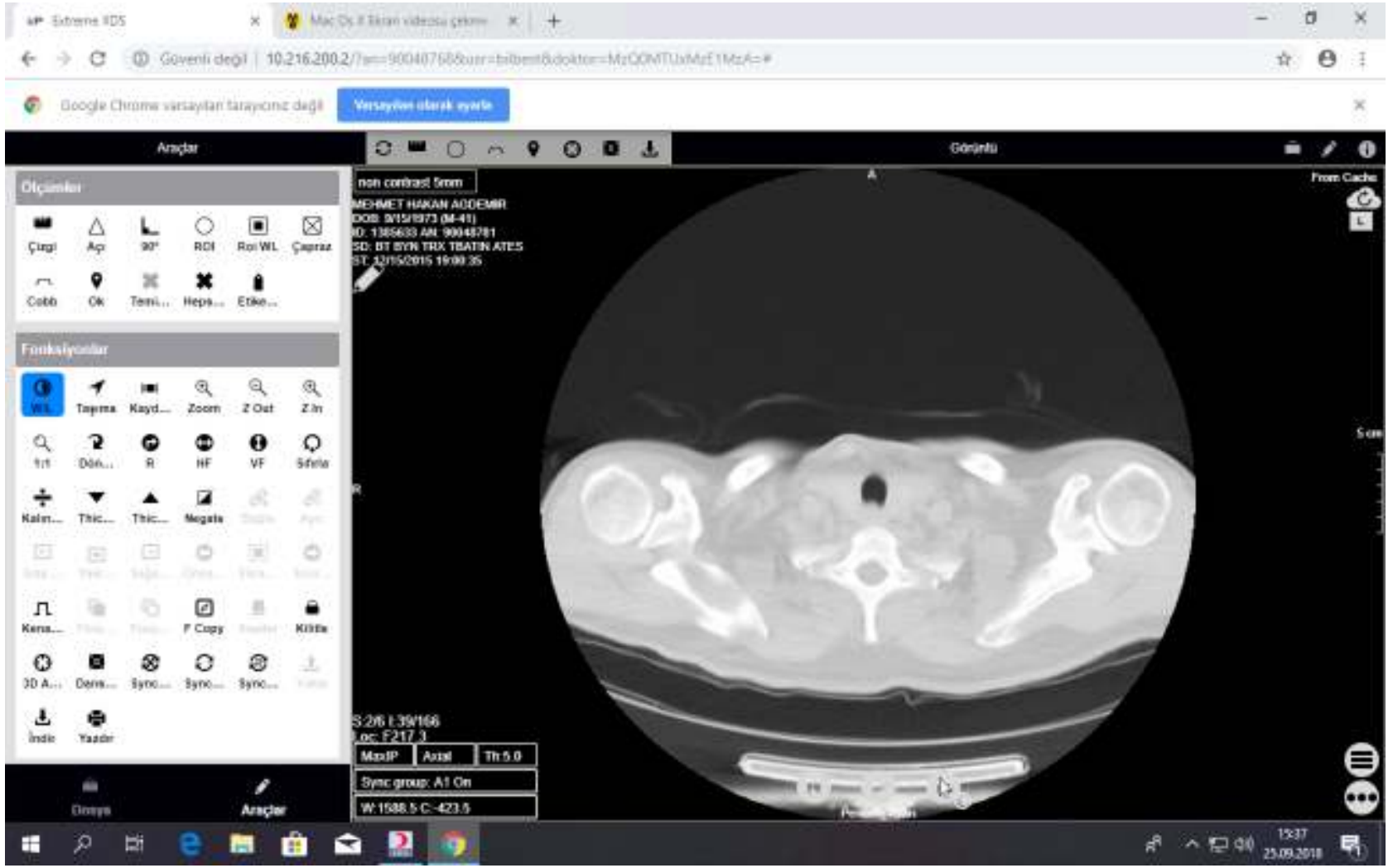
Laboratuvar

- AntiHIV: pozitif (128)

Laboratuvar

- CD4 sayısı: 16
- HIV RNA: 4 983 415 IU/ml
- HbsAg: negatif
- AntiHbs: negatif
- AntiHBc IgG: negatif
- AntiHAV IgG: negatif
- AntiHCV: negatif
- Kızamıkçık IgG: pozitif
- Kabakulak IgG: negatif
- Kızamık IgG: negatif
- PPD: CD4 düşük olduğu için yapılmadı
- Quantiferon: Undetectable (saptanamaz)

Görüntüleme



Tedavi

- TMP-SMZ 21 gün
- Flukonazol 7 gün

Bu aşamada hangi aşıları yapalım?

- Hepatit A
- Hepatit B
- Pnömokok
- Meningokok
- İnfluenza
- Tetanoz-Difteri-Pertusis
- HPV
- MMR
- Zoster
- Suçiçeği

BHIVA GUIDELINES
ON THE USE OF VACCINES
IN HIV-POSITIVE ADULTS
2015

Akut orta veya şiddetli ateşli hastalık durumunda, semptomları gerileyene kadar aşılanmamalıdır.

1.3.5 General contraindications

- As a general rule, vaccines are contraindicated in persons with a history of previous severe adverse reaction or allergy to the vaccine or its components. In addition, persons with acute moderate or severe febrile illness should not usually be vaccinated until their symptoms have abated
- Non-replicating vaccines may be used in pregnancy and during breastfeeding if there is a significant risk of infection or other clinical indication. Replicating vaccines are contraindicated in pregnancy, although in most cases the theoretical risk to the developing fetus is expected to be low

- İnfluenza (inaktif)
- Hepatit A
- Hepatit B
- Pnömokok
- Meningokok
- Tetanoz-Difteri-Pertusis

- HPV

Yaş>26 olduğu için endikasyon yok

- MMR
- Suçiçeği
- Zoster
- İnfluenza(canlı)

CD4<200 olduğu için Canlı aşılar kontrendike

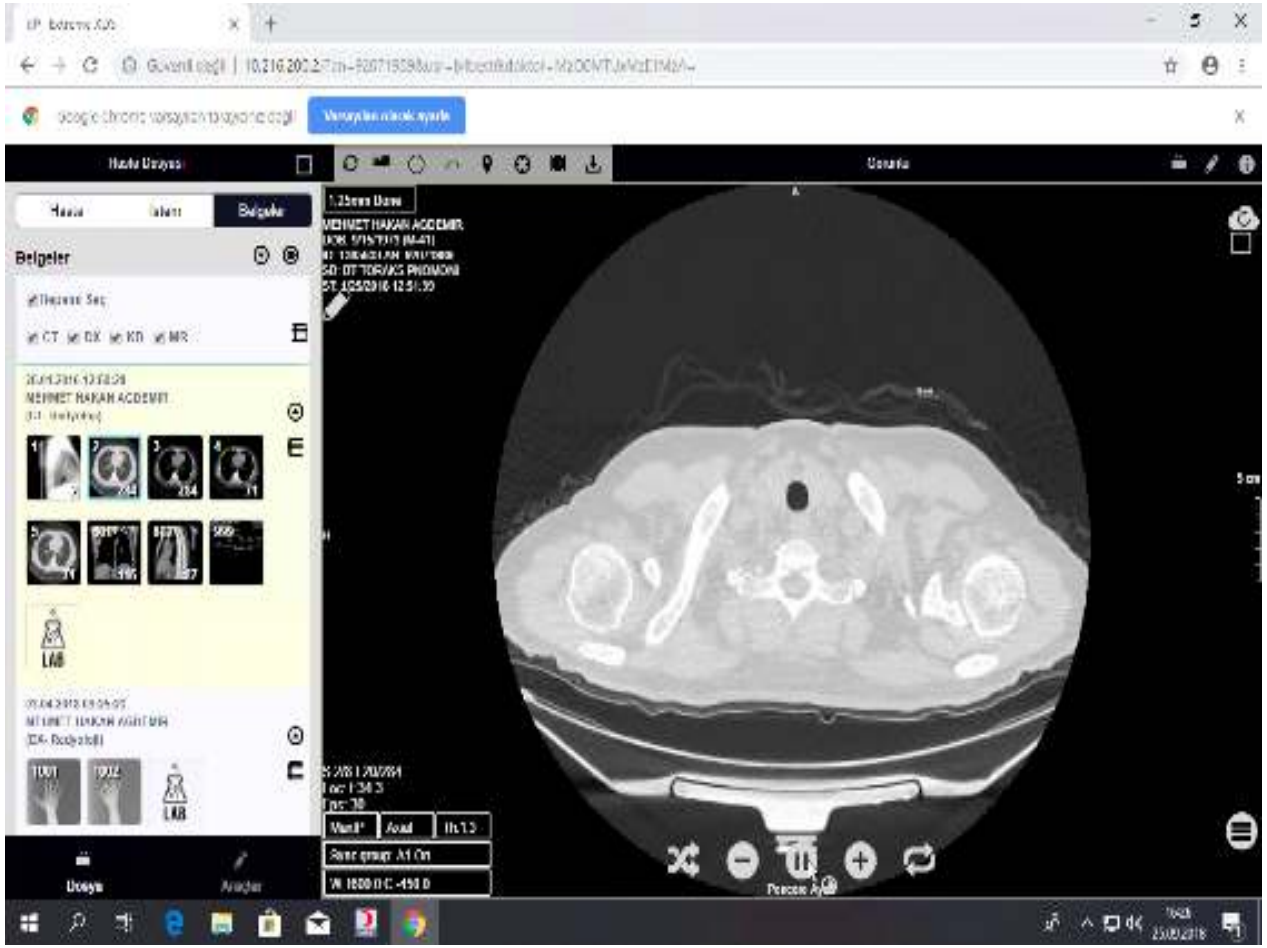
Pnömoni nedeniyle hiçbir aşı uygulanmadı

1.ay kontrol

- CD4 sayısı: 22
- HIV RNA: 5 453 689 IU/ml

- TDF-FTC 1x1 + RAL 2x1
- TMP-SMZ 800/160 mg 1x1/gün
- AZİTROMİSİN 1X1250/hafta

Kontrol görüntüleme



AIDSinfo

HIV and Immunizations

Last Reviewed: February 6, 2018

Can HIV infection affect the safety and effectiveness of vaccines?

Yes. Damage to the immune system due to HIV can reduce the body's immune response to a vaccine. A weakened immune response makes a vaccine less effective. In people with HIV, vaccines generally work best when a person's CD4 count is above 200 copies/mm^3.

HİV ile yaşayan CD4>200 hastalarda aşı yanıtları daha yüksek

Because HIV medicines strengthen the immune system and reduce HIV viral load, people with HIV may want to start antiretroviral therapy (ART) before getting vaccinated whenever possible. In some situations, however, immunizations should be given even if ART has not been started. For example, it's important for people with HIV to get vaccinated against the flu at the time of year when the risk of flu is greatest.

British HIV Association
BHIVA

1.3.2 Patients with CD4 cell counts <200 cells/μL

- Replicating (live) vaccines are contraindicated
- Responses to non-replicating vaccines are reduced. Depending on the level of risk, consideration may be given to delaying vaccination until the CD4 cell count has recovered with ART. Because

CD4 hücre sayısı ART ile yükselene kadar aşılar geciktirilebilir

counts however, the potential benefit of vaccination should not be denied to persons at risk of exposure. If indicated, the vaccine course can be repeated following immunorestoration on ART, rather than postponed [1C]

Infect Dis Ther. 2017 Sep; 6(3): 303–331.
Published online 2017 Aug 4. doi: 10.1007/s40121-017-0166-x
PMCID: PMC5595780
PMID: 28779442

Vaccinations for the HIV-Infected Adult: A Review of the Current Recommendations, Part I

Nancy F. Crum-Cianflone[1,2,3] and Eva Sullivan[4]

***Aşılar; erken teşhis edilen bireylerde kısa bir süre sonra uygulanabilir**

CD4 sayıları düşük olan geç tanı konulan olgularda, antiretroviral tedavi (ART) başlatılıncaya ve immün yeniden yapılandırmaya ulaşılıncaya kadar aşılar ertelenebilir

Most vaccines can be administered at or shortly after HIV diagnosis especially among early diagnosed persons. However, in cases of late diagnoses with low CD4 counts, postponing vaccination may be advised until antiretroviral therapy (ART) is initiated and immune reconstitution is achieved; further details will be discussed for each vaccine below. The timing of vaccination should be contextualized for each individual HIV-positive person balancing the risks of potential exposures with improved vaccine responses post-ART initiation. There are no clear data for the upper limit on the number of vaccines that can be administered at one visit, however practical limitations should be considered including the number of desirable anatomic sites to administer vaccines and patient comfort considerations. Additionally, live vaccines should be administered on the same day or separated by at least 28 days.

Aşılamanın zamanlaması;
potansiyel maruziyet ve aşı yanıtları açısından
her bir HIV pozitif kişi için özelleştirilmelidir

İnfluenza aşısı

Vaccine	WHO	UK	Europe	France	US
Influenza	Recommended for all patients, especially among pregnant women: yearly	Recommended for all patients: yearly Inactivated vaccine (quadrivalent preferred if available) Preference for administration between September and early November	Recommended for all patients: yearly	Recommended for all patients: yearly Inactivated vaccine	Recommended for all patients: yearly Inactivated vaccine

Tüm rehberler CD4 sayısına bakılmaksızın İnaktif İnfluenza öneriyor

Pnömokok aşısı

Vaccine	WHO	UK	Europe	France	US
Pneumococcal	Not recommended in resource-limited settings	Recommended for all patients. Use PCV-13 (one dose) regardless of HIV control. PPV recommended only for those with additional risk factors which include: ·Age >65 years old ·Younger adults with concurrent comorbidity (e.g., asplenia) based on national program recommendations Dosed as 1 dose of PPV-23 with PPV-23 given ≥3 months after PCV-13 No repeat doses of PPV-23 or PCV-13 are advised	Recommended for all patients. Use PCV-13 (one dose) No repeat dosing advised	Recommended for all patients. Use PCV-13 and PPV-23 Previously unvaccinated: 1 dose of PCV-13 followed by PPV-23 at ≥2 months later Previously vaccinated with PPV-23: 1 dose of PCV-13 at ≥3 years followed 2 months later with 1 dose of PPV-23	Recommended for all patients. Use PCV-13 and PPV-23 Previously unvaccinated: 1 dose of PCV-13 followed by 1 dose of PPV-23 at ≥8 weeks later (preferably when CD4 count ≥200 cells/mm^3). Repeat PPV-23 dose 5 years later Previously vaccinated with PPV-23, give PCV-13 at ≥1 year later followed by PPV-23 at 5 years later

UK ve Avrupa kılavuzları tüm hastalara PCV-13 PPV-23 ek endikasyon var ise

US ve Fransa kılavuzları tüm hastalara PCV-13 sonrasında PPV-23

PPV-23 için CD4 sayısı>200 olması tercih ediliyor

Tetanus-Difteri-Boğmaca aşısı

Vaccine	WHO	UK	Europe	France	US
Tetanus, diphtheria, pertussis	Recommended similar to the general population High-priority groups include: ·IV-drug users in areas without needle exchangeprograms: vaccinate with TT or Td ·Pregnant women (2nd or 3rd trimester): 1 dose of Tdap during every pregnancy ·Healthcare workers (especially those in contact with infants): priority group for pertussis vaccination	Recommended for all patients. Give Td Booster doses every 10 years if at risk of exposure; if >50 years old, booster every 5 years Pertussis vaccination recommended for those with the following risk factors: ·Pregnant women (28–32 weeks): 1 dose of dTap/IPV (Boostrix®-IPV) every pregnancy ·During an outbreak	No recommendations	Recommended similar to the general population dTP booster every 10 years	Recommended for all patients. Give Td Booster with Td every 10 years If never received Tdap, substitute Tdap for Td for one dose (Boostrix® or Adacel®) Pertussis vaccination recommended for those with the following risk factors: ·Pregnant women (27–36 weeks): 1 dose of Tdap for every pregnancy ·Anticipated close contact with infant aged <12 months: 1 dose of Tdap

Tüm rehberler rutin olarak Tetanoz aşısını öneriyor

Hepatit B aşısı

	WHO	UK	Europe	France	US
Non-immune (anti-HBs <10 mIU/ml)	Vaccination recommended CD4 count >500 cells/mm^3: 20 mcg dose at 0, 1, 6 months or 0, 1, 2, and 12 months CD4 count 200–500 cells/mm^3: 20 mcg dose at 0, 1, 2, and 12 months CD4 count <200 cells/mm^3: defer until ART initiated and CD4 count >200 cells/mm^3	Vaccination recommended HBV vaccine* given in 4 vaccine doses at 0, 1, 2, and 6 months Ultra-rapid vaccination course (3 standard doses of 20 mcg given over 3 weeks) considered in selected patients with CD4 count >500 cells/mm^3	Vaccination recommended Specific guidance not provided	Vaccination recommended High dose (40 mcg) given as 4 vaccine series at 0, 1, 2, and 6 months	Vaccination recommended Engerix-B® 20 mcg or Recombivax HB® 10 mcg as 3 dose series at 0, 1, and 6 months OR Engerix-B® 40 mcg or Recombivax HB® 20 mcg as 4 dose series at 0, 1, 2, and 6 months
Isolated hepatitis B core antibody (anti-HBc)	No recommendations	One HBV vaccine* followed by anti-HBs testing 2 weeks later and completion of series if anti-HBs <10 mIU/ml with 3 additional HBV vaccine* doses at 1, 2, and 6 months	Vaccination not recommended	One standard dose (20 mcg) followed by anti-HB testing. If no response and no detectable HBV DNA, then 3 doses of high-dose (40 mcg) vaccine	HBV DNA testing and if no evidence of chronic infection, give vaccine series
Isolated hepatitis B core antibody (anti-HBc)	No recommendations	One … 2 we… <10 … at 1, …	…	…lowed by anti-HB …tectable HBV … (40 mcg) vaccine	HBV DNA testing and if no evidence of chronic infection, give vaccine series
Serologic testing after primary series	4–8 weeks	4–8 weeks	No recommendations	4–8 weeks	4 weeks
Non-responders (anti-HBs <10 mIU/ml) after primary series If anti-HBs ≥10 but <100 mIU/ml after primary series	Booster doses or new vaccination course with 40 mcg dose at 0, 1, 2, and 6–12 months No recommendation…	HBV vaccine* in 3 dose series given at 0, 1, and 2 months (Fendrix® preferred) One booster of HBV vaccine*	40 mcg dose at 3–4 time points (0, 1, 6, and 12 months) No …	40 mcg dose every 1–2 months with anti-HBs testing 4–8 weeks after each injection. Continue with high dose until a protective titer is achieved (maximum of total 6 doses) No recommendations	Engerix-B® 40 mcg or Recombivax HB® at 0, 1, 2, and 6 months. Consider administration after a sustained increase in CD4 count on ART No recommendations
Periodic testing for responders	Yearly testing and if anti-HBs <10 mIU/ml, booster doses given	Yearly testing of anti-HBs with longer intervals (i.e., 2–4 years) if initial anti-HBs >100 mIU/ml, CD4 count >350 cells/mm^3, and viral load suppression on ART If anti-HBs <10 mIU/ml: One booster of HBV vaccine*	No recommendations	Yearly testing and if anti-HBs <10 mIU/ml, one booster dose	No recommendations

WHO CD4 sayısı<200 ise hepatit b aşısının ertelenmesini öneriyor

Tüm rehberler rutin olarak Hepatit B aşısını öneriyor

Fransa rehberi rutin olarak yüksek doz Hepatit B aşısını öneriyor

Hepatit A aşısı

Vaccine	WHO	UK	Europe	France	US
Hepatitis A	Recommended among those with the following risk factors: ·Chronic liver disease (including HBV or HCV) ·MSM ·Drug users ·Clotting-factor disorders ·Occupational exposure risk ·Travel risk 2 doses of inactivated vaccine at 0 and 6–12 months for those with risk factors No guidance on booster doses	Recommended for non-immune persons with the following risk factors: ·Household and sexual contacts of infected persons ·Travel risk ·MSM ·Drug users (IV and non-IV) ·Outbreak risk ·Occupational exposure risk ·Hemophilia ·Living in residential institutions and their caretakers CD4 count >350 cells/mm^3: 2 doses at 0 and 6 months CD4 count <350 cells/mm^3: 3 doses at 0, 1, and 6 months Booster (single dose) every 10 years if continued risk	Recommended for non-immune persons with the following risk factors: ·Travel risk ·MSM ·IV drug users ·Active hepatitis B or C infection No guidance on booster doses	Recommended for non-immune persons with following risk factors: ·Chronic liver disease ·Hepatitis B and/or C co-infection ·MSM ·IV drug users ·Travel risk 2 doses at 0 and 6–12 months If post-series titer <20 mIU/ml, then administer 3rd dose No guidance on booster doses	Recommended for non-immune persons with risk factors: ·Chronic liver disease ·Hepatitis B and/or C co-infection ·Drug users (IV and non-IV) ·MSM ·Occupational exposure risk ·Travel risk ·Receipt of clotting factor concentrates 2 doses of Havrix® at 0, 6–12 months or Vaqta® at 0 and 6–18 months Check IgG antibody response at 1 month post-vaccination and, if negative, revaccinate. Non-responders revaccinated when CD4 count >200 cells/mm^3 No guidance on booster doses

Tüm rehberler ek risk faktörü varlığında hepatit A aşısını öneriyor

Risk faktörleri
***Kronik karaciğer hastalığı**
***MSM**
***Seyahat riski**
***IV madde kullanıcısı**

HPV aşısı

Vaccine	WHO	UK	Europe	France	US
Human papillomavirus	Recommended for young females (9–13 years of age) and if resources allow vaccination of older adolescent and young females 3 doses at 0, 1–2, and 6 months	Recommended for the following: ·Males aged 9–26 years old ·MSM ≤40 years old ·Females ≤40 years old ·History of high-grade HPV disease 3 doses at 0, 1–2, and 6 months Gardasil-9® preferred (if available)	No recommendations	Recommended for the following: ·Females and males aged 11–19 years old ·MSM ≤26 years 3 doses (quadrivalent for males) at 0, 2, and 6 months	Recommended for females and males 9–26 years old 3 doses at 0, 1–2, and 6 months Gardasil-4® or -9® vaccine

WHO 9-13 yaş arası genç kızlara öneriyor

İngiltere rehberi;
MSM ve kadınlarda <40
Erkeklerde 9-26 arasında öneriyor

US ve Fransa <26 yaş öneriyor

Meningokok aşısı

Vaccine	WHO	UK	Europe	France	US
Meningococcal	Recommended for those with advanced HIV infection or those with following risk factors: ·Asplenia or complement deficiencies ·Laboratory workers ·Travelers ·Residing in closed communities (e.g., military camps) Conjugate vaccine preferred with serogroup coverage based on locally prevalent serogroup(s)	Recommended for those with following risk factors: ·Aged <25 years and not previously vaccinated/have uncertain vaccination history, or received last MenC vaccine <10 years old: MenACWY and possibly MenB ·Asplenia or complement deficiencies: MenACWY and MenB ·Travel exposure: MenACWY ·Outbreak exposure: vaccine based on serogroup causing outbreak MenACWY is given as 2 doses administered 2 months apart MenACWY booster every 5 years if risk remains	Vaccinate based on general population guidelines Conjugate vaccine (2 doses, 1-2 months apart) with booster every 5 years if exposure continues	Recommended for those with following risk factors: ·Aged ≤24 years old: 2 doses of MenC given 6 months apart ·MSM and >24 years old: 1 dose of MenC ·Asplenia or complement component or properdin deficiency: MenACWY and MenB ·Travel exposure: MenACWY ·Outbreak exposure: based on serogroup of outbreak MenACWY is given as 2 doses administered 6 months apart	Recommended for all HIV-infected persons 2 doses of MenACWY given ≥2 months apart and booster given every 5 years No specific recommendation for MenB among HIV-infected adults without additional risk factors

Tüm rehberler risk faktörü olan hastalarda aşı öneriyor

US rehberi tüm hastalara konjuge meningokok aşısını öneriyor

Su çiçeği aşısı

Vaccine	WHO	United Kingdom	Europe	France	United States
Varicella	CD4% ≥15% who are clinically stable: two doses Post-exposure prophylaxis: vaccinate ≤3–5 days of exposure among those with low level immunosuppression	VZV seronegative and CD4 count >200 cells/mm^3 and preferably on ART: two doses given 3 months apart with serologic testing 4–6 weeks post-2nd dose Post-exposure prophylaxis if seronegative and CD4 count >400 cells/mm^3: one dose ≤3–5 days of exposure with 2nd dose at 3 months	VZV seronegative and CD4 count >200 cells/mm^3: vaccinate	VZV seronegative and CD4 count >200 cells/mm^3: two doses given 4–8 weeks apart Post-exposure prophylaxis if no history of varicella or unclear vaccination history and CD4 count >200 cells/mm^3: vaccinate ≤3–5 days of exposure	VZV seronegative and CD4 count ≥200 cells/mm^3: two doses given 3 months apart

Tüm rehberler
VZV seronegatif
+
CD4>200
ise öneriyor

Zoster aşısı

Vaccine	WHO	United Kingdom	Europe	France	United States
Zoster	No recommendations	Seropositive VZV, CD4 count >200 cells/mm^3, and ≥70 years old (preferably on ART): one dose Consider for ≥60 years old with aforementioned criteria	No recommendations	Not recommended	Seropositive VZV, age ≥60 years old, and CD4 count ≥200 cells/mm^3: one dose

US ve UK rehberleri
VZV seropozitif
+
CD4>200
+
ileri yaş

ise öneriyor

Fransa kılavuzu önermiyor

MMR aşısı

Vaccine	WHO	United Kingdom	Europe	France	United States
Measles, mumps, and rubella	Routinely administered to potentially susceptible, asymptomatic HIV positive children and adults May be considered in symptomatic HIV infection if not severely immunosuppressed	Seronegative for measles, CD4 count >200 cells/mm^3, and clinically stable: two doses ≥1 month apart Post-exposure measles prophylaxis: if seronegative, CD4 count >200 cells/mm^3, preferably with stable viral load suppression on ART: one dose ≤3 days of exposure Women of child-bearing age and rubella seronegative with CD4 count >200 cells/mm^3 and not pregnant: one dose followed 4 weeks later by repeat rubella serology and revaccinate if required, or two vaccine doses 1 month apart. If also measles seronegative, then two doses 1 month apart	Contraindicated if CD4 count <200 cells/mm^3 (14%) and/or AIDS	CD4 count >200 cells/mm^3: two doses ≥1 month apart Post-exposure measles prophylaxis if CD4 count >200 cells/mm^3, no history of measles, and unvaccinated: vaccinate ≤3 days of exposure	CD4 count ≥200 cells/mm^3 for ≥6 months and lacks immunity: two doses ≥28 days apart

WHO asemptomatik HIV(+) hastalara rutin öneriyor

UK rehberine göre kızamık seronegatif veya kızamıkçık seronegatif doğurgan çağdaki kadınlarda öneriliyor

Tüm rehberlere göre CD4<200 hastalarda kontrendike

Hib aşısı

Vaccine	WHO	United Kingdom	Europe	France	United States
Haemophilus influenzae, serotype B (Hib)	No recommendations	Not routinely recommended In those with asplenia, splenic dysfunction or complement deficiency: one dose of a Hib-containing vaccine (e.g., Hib/MenC)	No recommendations	Not routinely recommended except in particular situations such as asplenia	Not routinely recommended In those with asplenia or sickle cell disease who have not previously received a dose: one dose of a Hib vaccine

Tüm rehberler rutin olarak önermiyor

BCG aşısı

Vaccine	WHO	United Kingdom	EACS	France	United States
BCG	Contraindicated	Contraindicated	No recommendations	Contraindicated	Contraindicated

Tüm rehberlere göre kontrendike

ERİŞKİN BAĞIŞIKLAMA REHBERİ

Tablo 14. Erişkinlerde risk gruplarına göre 2016 aşı önerileri (ÖZET TABLO)

	KHN[1]	İmm. Komp. Hasta.	Aspleni[2]	SOT[3]	Romato. hast.[4]	HIV enf.[5] (CD4<200 /mm³)	HIV enf.[5] (CD4≥200 /mm³)	Sağlık çalışanı[6]	Gebe[7]
Td/Tdap									
İnfluenza									
PCV13									
PPSV23									
Hepatit B									
Hepatit A									
Zoster									
Suçiçeği									
KKK									
Meningokok									
Hib									
HPV									

Td: Tetanoz-difteri; Tdap: Tetanoz-difteri-aselüler boğmaca; Hib: *Haemophilus influenzae* tip b aşısı; HPV: Human papilloma virus aşısı; KHN: Kök hücre nakli; KKK: Kızamık-kızamıkçık-kabakulak aşısı; PCV13: Konjuge pnömokok aşısı; PPSV23: Polisakkarit pnömokok aşısı; SOT: Solid organ transplantasyonu

- Uygulanması önerilir.
- Diğer risk faktörleri, endikasyonlar ve yaş faktörüne göre uygulanması önerilir.
- Kontrendikedir.
- Özel bir öneri olmayıp hastanın ve hekimin isteğine göre uygulanabilir.

ERİŞKİN BAĞIŞIKLAMA REHBERİ

Hastalığın ilerlemiş immünsupresyon (erişkinler için CD4 sayısı <200/mm^3 veya 5 yaşın altındaki çocuklar için <%15) evresinde aşıların immünojenitesi ve etkinliği düşüktür ve antikor cevapları daha kısa sürer. Üstelik, bu evrede canlı aşılar kontraendikedir. İnaktive aşılar ise güvenlidir ve uygulanması geciktirilmemelidir ancak ilk aşıya suboptimal antikor cevabı alınırsa, immün rekonstrüksiyon ve virolojik supresyon sağlandıktan sonra tekrar aşılama önerilir.

HIV ile enfekte hastaya uygulanan aşıların hücresel immüniteyi aktive etme riski, aşılamadan 1-3 hafta sonra HIV replikasyonunu arttırma ve enfeksiyonu tetikleme potansiyeli konusunda endişeler ortaya çıkmıştır. Ancak, bu geçici durum klinik ve immünolojik olarak anlamlı değildir ve aşılamadan sonra viral yük kontrolüne gerek yoktur.

Diğer immünsupresif hastalarda olduğu gibi yakın temaslılarının da aşılanması ve bağışıklık durumları hastanın korunması açısından önemlidir. Yakın temaslılarının canlı aşı ile aşılanmasından kaçınılmalıdır.

1.ay kontrol

- CD4 sayısı: 22
- HIV RNA: 5 453 689 IU/ml

- TDF-FTC 1x1 + RAL 2x1
- TMP-SMZ 800/160 mg 1x1/gün
- AZİTROMİSİN 1X1250/hafta başlandı

Bu aşamada hangi aşıları yapalım?

- HbsAg: negatif
- AntiHbs: negatif
- AntiHBc IgG: negatif
- AntiHAV IgG: negatif
- AntiHCV: negatif
- Kızamık IgG: negatif
- Kızamıkçık IgG: pozitif
- Kabakulak IgG: negatif

Şimdi hangi aşıları yapalım?

- Pnömokok
- İnfluenza (inaktif)
- Hepatit A
- Hepatit B
- Tetanoz-Difteri-Pertusis
- Meningokok

Konjuge pnömokok aşısı tek doz

İnaktif İnfluenza

0-6 Hep A aşısı CD4<200 old. İçin ertelendi

0-1-6 Hep B aşısı CD4<200 old. için ertelendi

Polissakkarit pnömokok aşısı CD4<200 old. için ertelendi

Tetanoz aşılama şeması tam. Yapılmadı

Meningokok: Ek endikasyon yok. yapılmadı

- HPV

Yaş>26 olduğu için endikasyon yok

- MMR
- Suçiçeği
- Zoster
- İnfluenza(canlı)

CD4<200 olduğu için Canlı aşılar kontrendike

4. Ay takip

- CD4 sayısı: 142
- HIV RNA: 4587 IU/ml

7. Ay takip

- CD4 sayısı: 242
- HIV RNA: negatif

Şimdi hangi aşıları yapalım?

- Hepatit A
- Hepatit B
- Pnömokok
- İnfluenza
- Tetanoz-Difteri-Pertusis
- Meningokok

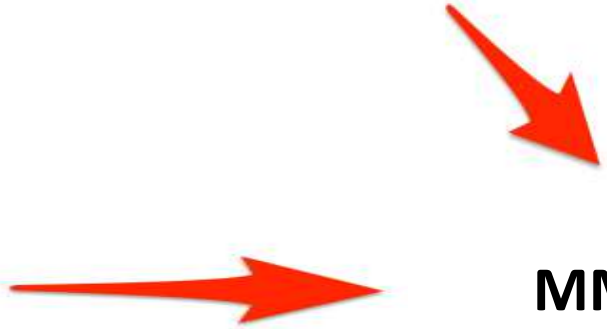
0-6 Hep A
0-1-6 Hep B
Polissakkarit pnömokok aşısı CD4>200 old. için konjuge aşıdan 6 ay sonra uygulandı.
Konjuge pnömokok aşısı 6 ay önce yapılmıştı(rapel yok)
İnfluenza yıllık olarak rutin yapılması planlandı (eylül)
Tetanoz aşılama şeması tam-yapılmadı(10 yılda bir rapel planlandı)
Meningokok: Ek endikasyon yok. yapılmadı

- HPV — **Yaş>26 olduğu için endikasyon yok**
- MMR — **CD4>200**
- Suçiçeği — **Varisella IgG (+) Endikasyon yok**
- Zoster — **65 yaş üzerinde endike**

15. Ay takip

- HbsAg: negatif
- AntiHbs: pozitif (468)
- AntiHBc IgG: negatif
- AntiHAV IgG: pozitif
- AntiHCV: negatif
- Kızamık IgG: negatif
- Kızamıkçık IgG: pozitif
- Kabakulak IgG: negatif

- CD4 sayısı: 465
- HIV RNA: negatif



MMR aşısı yapıldı

Takipte seroloji kontrol edelim mi?

	WHO	UK	Europe	France	US
Non-responders (anti-HBs <10 mIU/ml) after primary series	Booster doses or new vaccination course with 40 mcg dose at 0, 1, 2, and 6–12 months	HBV vaccine* in 3 dose series given at 0, 1, and 2 months (Fendrix® preferred)	40 mcg dose at 3–4 time points (0, 1, 6, and 12 months)	40 mcg dose every 1–2 months with anti-HBs testing 4–8 weeks after each injection. Continue with high dose until a protective titer is achieved (maximum of total 6 doses)	Engerix-B® 40 mcg or Recombivax HB® at 0, 1, 2, and 6 months. Consider administration after a sustained increase in CD4 count on ART
If anti-HBs ≥10 but <100 mIU/ml after primary series	No recommendations	One booster of HBV vaccine*	No recommendations	No recommendations	No recommendations
Periodic testing for responders	Yearly testing and if anti-HBs <10 mIU/ml, booster doses given	Yearly testing of anti-HBs with longer intervals (i.e., 2–4 years) if initial anti-HBs >100 mIU/ml, CD4 count >350 cells/mm^3, and viral load suppression on ART If anti-HBs <10 mIU/ml: One booster of HBV vaccine*	No recommendations	Yearly testing and if anti-HBs <10 mIU/ml, one booster dose	No recommendations

Aşı yanıtsız hastalarda genel öneri;
Yüksek doz 3 veya 4 aşılama

UK rehberine göre;
AntiHbs>100
CD4>350
Viral supresyon +
ise
2-4 yılda bir AntiHBs

AntiHbs<10 ise
Rapel aşı

teşekkür ederim..

teşekkür ederim..