DPT VACCINE
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1796
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1885
INTRODUCTION

• The morbidity and mortality due to diphtheria, tetanus and pertussis has reduced significantly in India since introduction of the whole cell vaccines in EPI.

• However, coverage with 3 doses of the whole cell vaccine DTwP vaccine is still low (71.5%) and only 41.4% children in the age group of 18–23 months had received first DTwP booster.
DTwP VACCINE

• Popularly known as triple antigen
• Composition:
  Tetanus toxoid-5-25 LF/dose
  Diphtheria toxoid-20-30 LF/dose
  Killed whole cell pertussis bacilli
• Storage: 2-8 °C
• Dosage and route: 0.5 ml; Intra muscularly
• Site: anterolateral aspect of thigh
DPT – DOSE, SCHEDULE

• 0.5 ml (at all ages)
• Should be given by deep intramuscular route to antero-lateral aspect of thigh.
• 3 Doses at 1 ½, 2 ½ and 3 ½ months followed by booster dose at 1 ½ years and 5 years.
• Not recommended after 7 years.
• Should be given even after the child is recovering from any of the three diseases because natural infection does not provide effective immunity.
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ADVERSE EFFECTS

• Most are due to PERTUSIS component.

• Minor
  – pain, swelling and redness at the local site, fever, fussiness, anorexia and vomiting
  – 50% of the times after any of the 3 primary doses.

• Serious
  – Incidence per thousand doses
    • Fever more than 40.5°C – 0.2 to 4.4
    • persistent crying: 4–8.8%
    • hypotonic hyporesponsive episodes (HHE): 0.06–0.8
    • Seizures: 0.16–0.39
    • Encephalopathy: 0.007
CONTRAINDICATIONS

• **Absolute contraindication:**
  – Anaphylaxis or development of encephalopathy within 7 days following previous DPT vaccination.

• **Relative contraindication:**
  – Progressive/evolving neurological illnesses
  – However, DTwP can be safely given to children with stable neurological illnesses.
DTaP VACCINE

• Diphtheria, Tetanus and acellular pertussis toxoid vaccine (TRIPACEL).

• Acellular pertussis ---- 3 elements: pertussis toxoid, filamentous hemagglutinin(FHA), pertactin(PRN).

Each 0.5 ml (1 dose) contain:
> 30IU of diphtheria toxoid,
> 40IU of tetanus toxoid,
25 mcg of PT,
25 mcg of FHA and
8 mcg of PRN.

DOSE: 0.5ml deep i/m, 3 doses at 4-6 wks interval, booster at 2nd and 5th yr.
CONTRAINDICATIONS

• The standard strength DTwP and DTaP vaccines cannot be used for vaccination of children 7 years and above due to increased reactogenicity
DTP Vaccine

Routine vaccination:

- Minimum age: 6 weeks.
- First booster – as early as 12 months of age, provided at least 6 months have elapsed since the third dose.
**DTaP**

- DTaP Vaccine/combinations –preferably avoided for primary series.

- DTaP is preferred to DTwP in children with previous h/o severe adverse effects or with neurological disorders.

- First and second boosters may also be of DTwP. But with higher reactogenicity, DTaP can be considered for the boosters.
CONTENT OF PERTUSIS VACCINE

• If any acellular pertussis containing vaccine is used, it must be at least have **3 or more components in the product.**
CATCH UP VACCINATION

• 2\textsuperscript{nd} booster is not required – if last dose is beyond 4 yrs. of age.

• Catch up below 7 yrs.: DTwP/DTaP@ 0, 1 & 6 months.

• Catch up above 7 years: Tdap, Td & Td at 0,1 & 6 months.
TDaP VACCINE

- Immunity against pertussis following DTwP/DTaP vaccination wanes over the next 6–12 years.

TDaP

- Standard quantity tetanus toxoid
- Reduced quantity diphtheria
- Acellular pertussis vaccine
TDaP VACCINE

Routine vaccination

• Minimum age: 7 yrs.
• 1 dose of Tdap vaccine to all adolescents aged 11 - 12 yrs.

• Tdap during pregnancy: 1 dose of Tdap to pregnant mothers/adolescents during each pregnancy. (pref 27-36 weeks) regardless of no. of yrs. from prior Td or Tdap vaccination.
CATCH UP VACCINATION

• **Above 7 yrs:** Tdap, Td, Td @ 0,1 & 6 months.

• 7-10 yrs. who are not fully immunized with childhood DTwP/DTaP vaccine series, should receive Tdap vaccine as first dose in catch up, if additional doses are needed Td to be used.

• For these children an adolescent Tdap should not be given.
**Tdap booster**

- **11-18 yrs.** - Not received Tdap should receive a dose followed by Td booster doses every 10yrs thereafter.

- Tdap to be given regardless of interval since last tetanus & diphtheria toxoid-containing vaccine.
Thank You