ADHD 최적치료 지침을 위한 예비연구[*]

PRELIMINARY STUDY FOR ADHD TREATMENT GUIDELINE

이영식[**][†]·김은영[**]·나 철[**]

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목 적   -   (ADHD)
                              ,   ADHD
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      ,   ,
                  .

방 법   32   ,
                              ,   ,   .   Texas
Algorithm Project(TAP)   .

결 과   ADHD   ,   ,
      ,   ,   ADHD   TAP   ,
aderall, bupropion, guanfacin   ,
                              TAP   ,
                              MPH   ,
                                        ,   ,   ,
            .

결 론
              ,   ADHD
              .

중심 단어   -   (ADHD)·   · Texas Algorithm Project(TAP).

서 론

                                                Hyperactivity Disorder,   ADHD)
                                              ,   3~20%
              ,   ,   3
          -                  (Attention Deficit with   [1].

2.0~ 6.3%[2]

, 7.6%

[3]. ,

,

-

,

.

[4]. ADHD

50% ,

25% , 33% , 20~ .

25% , 3% ADHD

[5].

(disruptive behavior disorder), - ,

.

, ADHD

[13)14].

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ADHD

, ADHD

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ADHD

,

,

ADHD [6)7].

ADHD ("ADHD look- alikes")

, , ,

, , (abuse) (neglect) ,

, [8]. ADHD

(miss diagnosis) "pseudo- AD-

HD" "masked ADHD" 2 [9].

, "pseudo- ADHD" AD- ADHD

HD ,

.

. "masked- ADHD"

, ADHD ,

.

, (iatrogenic)

.

ADHD

[10].

[11]. ADHD

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,

,

[12],

, ADHD 1

[15- 17].

,

, , ADHD ,

[16].

,

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ADHD

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Texas Algorithm Project(2000)[18)19]

연구대상 및 방법

1. 연구대상

24　　　8

32　　　. 5

2. 연구방법

1) 진단 검사도구 파악
　ADHD　　　,

2) 약물치료 현황파악
ADHD

3) 비 약물치료 현황파악

Table 1. Present practise and the necessity of the diagnostic workup for ADHD(n=32)

Diagnostic workup	Present practice			Necessity		
	Routinely	Selectively	Not	Routinely	Selectively	Not
Conner's scale	45.2%(14)	32.3%(10)	22.6%(7)	66.7%(20)	26.7%(8)	6.7%(2)
CBCL	45.2%(14)	25.8%(8)	29.0%(9)	46.7%(14)	43.3%(13)	10.0%(3)
SCT	51.6%(16)	45.2%(14)	3.2%(1)	56.7%(17)	36.7%(11)	6.7%(2)
Intelligence test	58.1%(18)	41.9%(13)	0 %(0)	80.0%(24)	16.7%(5)	3.3%(1)
Projective test	22.6%(7)	74.2%(23)	3.2%(1)	23.3%(7)	70.0%(21)	6.7%(2)
ADS	30.0%(9)	6.7%(2)	63.3%(19)	50.0%(14)	35.7%(10)	14.3%(4)
TOVA	16.1%(5)	16.1%(5)	67.7%(21)	43.3%(13)	33.3%(10)	23.3%(7)
CPT	3.3%(1)	16.7%(5)	80.0%(24)	26.7%(8)	46.7%(14)	26.7%(8)
WCST	6.5%(2)	25.8%(8)	67.7%(21)	13.3%(4)	53.3%(16)	33.3%(10)
Stroop test	3.2%(1)	19.4%(6)	77.4%(24)	10.0%(3)	50.0%(15)	40.0%(12)
Trail making test	6.7%(2)	16.7%(5)	76.7%(23)	10.3%(3)	51.7%(15)	37.9%(11)
MRI/CT	0 %(0)	83.9%(26)	16.1%(5)	0 %(0)	86.7%(26)	13.3%(4)
SPECT	0 %(0)	38.7%(12)	61.3%(19)	0 %(0)	63.3%(19)	36.7%(11)
EEG(simple)	25.8%(8)	67.7%(21)	6.5%(2)	26.7%(8)	70.0%(21)	3.3%(1)
EEG(specific)	3.2%(1)	61.3%(19)	35.5%(11)	6.7%(2)	83.3%(25)	10.0%(3)
ERP	0 %(0)	38.7%(12)	61.3%(19)	0 %(0)	56.7%(17)	43.3%(13)
CBC,U/A,LFT	40.0%(12)	43.3%(13)	16.7%(5)	48.3%(14)	44.8%(13)	6.9%(2)
ECG	41.9%(13)	48.4%(15)	9.7%(3)	43.3%(13)	56.7%(17)	0 %(0)
TFT	12.9%(4)	67.7%(21)	19.4%(6)	20.0%(6)	76.7%(23)	3.3%(1)
Pb level	3.2%(1)	35.5%(11)	61.3%(19)	10.0%(3)	73.3%(22)	16.7%(5)
Chromosome test	0 %(0)	41.9%(13)	58.1%(18)	3.3%(1)	76.7%(23)	20.0%(6)

CBCL　Child Behavior Checklist, SCT　Sentence Completion Test, ADS　ADHD Diagnostic System, TOVA　Test of Variables of Attention, CPT　Continuous Performance Test, WCST　Wisconsin Card Sorting Test, TFT　Thyroid Function Test

Table 2. Main trend of clinician's prescription for ADHD (n=32)

Drug classification	Percentage of prescription
Psychostimulant	metylphenidate(100%), pemoline(65.6%)
Antidepressant	imipramine(90.6%), fluoxetine(65.6%), sertraline(31.3%), moclobemide(31.3%), nortriptyline(25.0%), velafaxine(12.5%)
Mood stabilizer(53.1%)	Valproate(43.8%), carbamazepine(40.6%), lithium(9.4%)
Antipsychotics(71.9%)	haloperidol(65.6%), pimozide(31.3%), risperidone(21.9%)
Others	Clonidine(84.4%)

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3. 자료분석

PC- SPSSWIN

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연구결과

1. 진단도구 및 의학적 검사

ADHD
[20] 58%,
52%, 45%, CBCL(Child Behavior
Checklist)[21] 45% .
80%, 67% . ADHD
ADS
(ADHD Diagnostic System), TOVA(Test of Vari-
ables of Attenton)[22], CPT(Continuous Perform-
ance Test)[11]

. ADS, TOVA, CPT
(Table 1).
CBC/UA/LFT
40%
,
(Table 1).

2. 약물치료 실시현황

1) 전반적 약물사용 경험

ADHD
(MPH 100% pemoline 66%), (IMP
91% SSRI 75% RIMA 31% nortriptyline 25%),
clonidine(84%), (53%),

(72%) 8.2± 3.4 (mean± S.D.)
. MPH, IMP, cloni-
dine, SSRI 72%
(Table 2).
Ad-
erall 7 , Dexedrine 4 , MPH- SR 2 .
IMP, SSRI , SSRI
prozac (Table 2).
bupropion 1 .
clonidine 84%
, haloperidol
(Table 2).
7 (22%) guanfacine .

2) 공존질병이 없는 ADHD의 경우

1 MPH .
2 pemoline
(53%) , imipramine (34%)
(Table 3, Fig 1).

3) 감정장애가 동반된 ADHD의 경우

1 MPH
14 (44%), 11
(35%), 7 (21.9%) . 1 , 2
MPH
MPH
13 (42%) , MPH 1,2
5 (16%) (Table 3).

4) 틱 장애가 동반된 ADHD의 경우

.
1 (nonstimulant)
21 (66%) ,

Table 3. Clinician's drug choice in variable situations(n=32)

Situations	1st choice	2nd choice
Without co-morbidity	MPH(100%)	Pemoline(53.1%) Imipramine(34.4%) SSRI(6.3%) Clonidine(6.3%) Risperidone(3.1%)
With emotional disorders	MPH(43.8%) AD(34.4%) MPH+ AD(21.9%)	<1st 2nd process> MPH AD(41.9%) MPH MPH(41.9%) no choice of MPH(16.1%)
With Tic disorder	Stimulant(25.0%) Clonidine(21.9%) Antipsychotics(21.9%) Imipramine(9.4%) Stimulant+ Antipsychotics(6.3%) Clonidine+ Antipsychotics(6.3%)	
With aggression, conduct disorder	MPH(65.6%) MPH+ Antipsychotics(12.5%) MPH+ Mood stabilizer(6.3%) MPH+ Antidepressants(6.3%) Others(9.4%)	MPH MPH+ AP/MS/AD/clonidine(45.2%) MPH Nonstimulants(19.4%) MPH+ others MPH+ others (19.4%) No choice of MPH in 1st, 2nd choice process(9.4%)
Adolescent	nonspecific(50.0%) SSRI(34.4%) Pemoline(9.4%) AD(9.4%) MS(6.3%) Clonodine(6.3%) Clomopramine, Clonazepam(3.1%)	

MPH Methylphenidate, AP Antipsychotics, AD Antidepressant, SSRI Selective Serotonine Reuptake Inhibitor MS Mood Stabilizer

1 8 (25%), 1 MPH
3 (9.4%) 2 MPH
. clonidine, antipsycho- 14 (45%) , 2 MPH
tics, imipramine (Table 3). 1 , 2 6 (20%), MPH
1 , 2 6 (20%) (Table 3).
19 (61.3%) , 6 MPH 1,2
(19.4%) 1,2 stimulant 20 (63%) , 1 MPH
. 1 , 2 stimulant 2 8 (26%) . MPH
12 (38.7%) . 1, 2 9% .

5) 파탄적행동장애가 동반된 ADHD의 경우

1 MPH
29
(91%) . MPH 16 (50%)
21 (66%) . 11 (34%) .
Antipsychotics, mood stabilizer, MPH
8 (25%) (Table 3). 1 2

6) 청소년 ADHD의 경우

ADHD

16 (50%) , SSRI
11 (34%) . pemoline,
, mood stabilizer, clonidine
(Table 3).

Table 4. Clinician's present practise and opinion of necessity about the non-pharmacological treatment modalities(n=32)

Treatment modality	Present practise		Necessity	
	Yes	No	Yes	No
Individual psychotherapy/play therapy	75.0%(24)	25.0%(8)	31.3%(10)	68.8%(22)
Individual CBT	65.6%(21)	34.4%(11)	56.3%(18)	43.8%(14)
Individual parents counselling	96.9%(31)	3.1%(1)	90.6%(29)	9.4%(3)
Child group therapy	37.5%(12)	62.5%(20)	29.0%(9)	71.0%(22)
Parents group therapy	43.8%(14)	56.3%(18)	61.3%(19)	38.7%(12)

CBT cognitive-behavioral therapy

3. 기타 치료의 실시현황 및 실시 필요성

ADHD

97%   ,

75%,   66%.,

44%,   38%   (Table 4).

91%,   61%,

56%,   31%,   29%

.   , ADHD

.

고   찰

(treatment guideline)

,   ,

.   (disease manage-
ment protocol),   (algorithm)[23]

,

.

,   [18]

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,

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.   ,

1. 진단적 접근에 관하여

50%

ADHD

,   ,

(sustained attention test ADS, TOVA,
CPT)   . 50%

.

ADS(50%), TOVA(43.3%), CPT
(26.7%)   .   ADS TOVA CPT

,   -

ADS

. ADHD

,   ,

,   80%

.

25%

.   ,   ,   ,

2.

.   Texas Algorithm Project(TAP)   ADHD

1   [14]   methylphenidate

,   ,   ,   amphetamine(   )   pemoline(

Stage 1   Stage 2

*Non-medication
*Treatment
alternatives

* Pemoline(53.1%)
*Imipramine(34.4%)
* SSRI(6.3%)
* Clonidine(6.3%)
* Risperidone(3.1%)

partial
response or
nonresponse

* monotherapy
MPH(100%)

*MPH   AD(41.9%)
*MPH   MPH(41.9%)
* no MPH   no MPH(16.1%)

* MPH(43.8%)
*AD   IMP8+ SSRI3(34.4%)
* MPH+AD(21.9%)

*1 , 2   stimulants   (19.4%)
*1 , 2   stimulants
(38.7%)
*1   2   stimulants
(61.3%)

Stage 0

*Nonstimulants(66%)
* Stimulants(25%)
*Stimulants+ Tic
Medication(9.4%)

*MPH   MPH+ AP/MS/AD/clonidine(45.2%)
*MPH   Nonstimulants(19.4%)
*MPH+ others   MPH+ others (19.4%)
*   (15.6%)
*1 , 2   MPH   (62.5%)
*1   MPH   (25.8%)
*1 , 2   MPH   (9.4%)

* MPH(65.6%)
* MPH+ AP(12.5%)
* MPH+ MS(6.3%)
* MPH+ AD(6.3%)
* others (9.4%)

* No difference(50%)
* SSRI(34.4%)
* Pemoline(9.4%)
* AD(9.4%)
* anticonvulsants(6.3%)
* clonidine(6.3%)

without cormorbid disorders
with emotional disorders
with Tic disorders
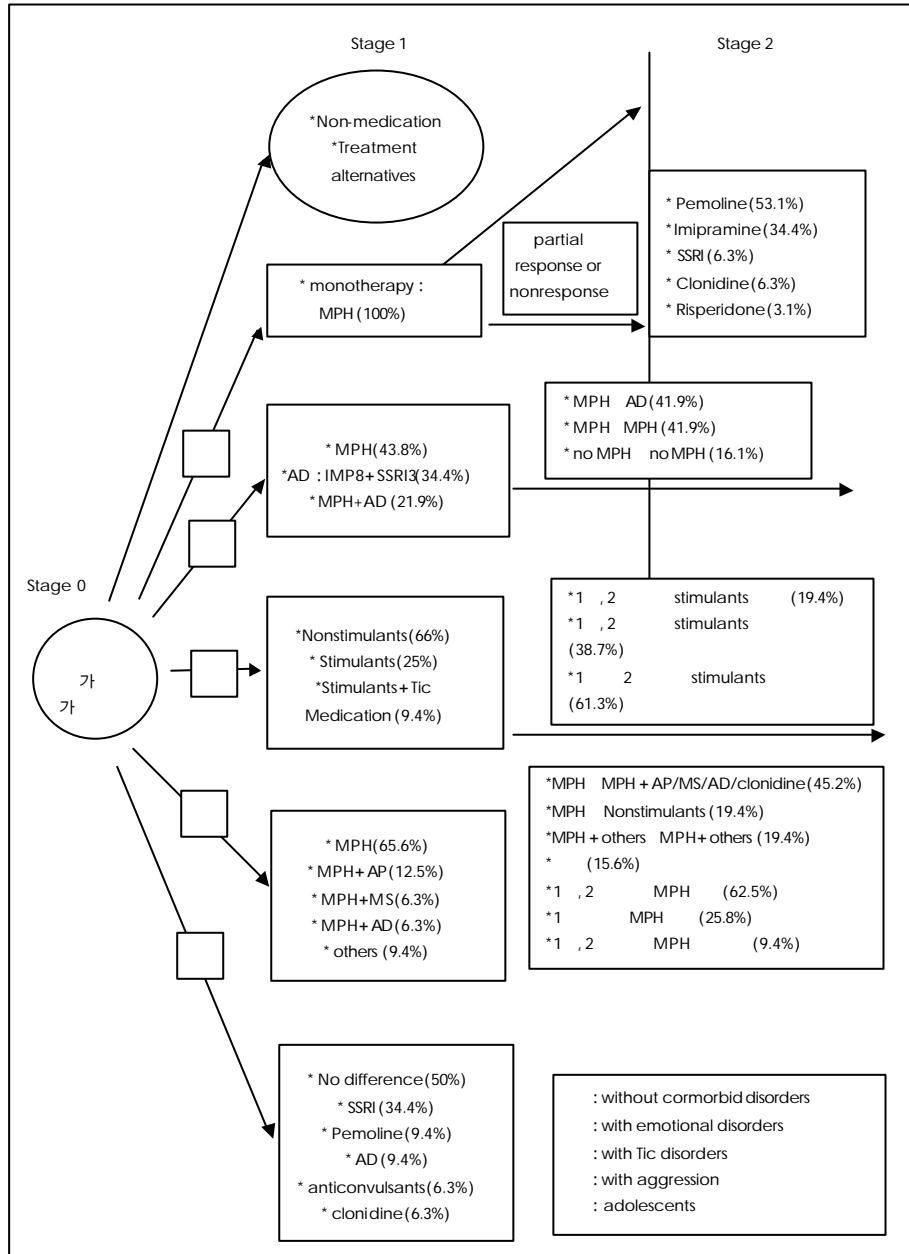with aggression
adolescents

Fig. 1. Algorithm for the medication treatments of ADHD without/with cormorbid psychiatric disorders in this study.

)   bupropion, imipramine, nortripty-
line(   )   clonidine,
guanfacine(alpha agonist   )
                 .   AD-
HD   8.2(±   1 , 2
3.4)   .   1
MPH   . 2
      pemoline(53%)   ,
imipramine(34%)   (Fig. 1).
                 TAP   .   TAP
              Aderall, Dexedrine,
MPH- SR, bupropion, guanfacine
               , nortryptyline
                 .   ,
               ,
        aderall
     .
          ADHD   , TAP
              ,   ADHD
     SSRI   .
   ADHD
             (bupropion, imipramine, nor-
tryptyline)   AD-
HD   ,
        .   ,
          1   MPH
   44%,   35%,
22%   . 1 , 2
  MPH
  MPH   42%   .
     TAP
                   .
       ADHD   T.A.P
                ,
     clonidine   ,
          (risperidone, pimozide, halo-
peridol   )   .
      .

                         1
            (nonstimulant)   66%
                 , TAP
       1   25%   .
                             38.7%   .
TAP   .
          ADHD   TAP
                               ,
          - agonist   ,
          ADHD   ,
                               .
          1   MPH
91%   .   MPH
          66%   , antipsychotics, mood
stabilizer,   MPH
          25%   . 1   2
     , 1   MPH
     2   MPH
          .   TAP   ,
MPH
          , MPH
          .
     ADHD
                    50%   , SS-
RI   34%   .
MPH
     ,
               .   T.A.P.
     .

3. 약물치료 이외의 치료에 관하여
   ADHD

              ,
                    ,
       .
          43.8%   , 37.5%
                    .

— 136 —

90.6%, 61.3% .
ADHD

31.3% .

,

, .

ADHD

,

, , ,

ADHD TAP ,
aderall, bupropion, guanfacin

,

TAP

,

TAP ,

MPH

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———— ABSTRACT ————　　　　　　　　*Korean J Child & Adol Psychiatr 13：129~138, 2002*

PRELIMINARY STUDY FOR ADHD TREATMENT GUIDELINE

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Objectives：In order to treatment guideline of ADHD, present clinical practise of child psychiatrists and their opinion of optimal intervention were evaluated.

Methods：Structured questionnaire items about diagnostic workup, drug choice of 5 different situations according to different co-morbid disorders, and non - pharmacological treatment were applied to 32 child psychiatrists working at university and general hospital. we compared the data with Texas Algorithm Project guideline.

Results：(1) Intelligence Test, Sentence Completion Test, sustained attention test, and Conner's questionnaire were the basic routine test that must be performed. (2) Main trend of medication in this study was not different from TAP guideline. (3) In case of co-morbid tic disorder, first recommending drug is still psychostimulant in the TAP guideline. But in this study initial psychostimulant prescription was not main trend. (4) In case of MPH non-response co-morbid disruptive behavior disorder, MPH medication combined with other drug were more common than switching to other drug as suggested the TAP guidelines. (5) In non-pharmacological treatment, most child psychiatrists reported the importance of parent management.

Conclusion：There were some difference in medication trend in this study compared with TAP guideline. Further study and conference are needed for experts consensus in Korea.

KEY WORDS：Attention Deficit Hyperactivity Disorder(ADHD) · Treatment Guideline · Texas Algorithm Project(TAP).