of the children affected\textsuperscript{8,7}. In Greece, a similar pro-
gram was initiated in the early 80’s on a nationwide
basis. The overall incidence of CH in the country is
1:2321. One in every 2542 screened newborns suffered
permanent CH, whereas the transient forms of the
disease, which needed replacement therapy, accounted
for 8.7% of all cases.

Transient CH caused by transplacental transfer of
TSH-R Abs is a relatively rare condition and epide-
miological data in the literature are scarce. In our
study, which comprised 508,358 screened newborns,
we found 6 newborns with transient CH attributed to
maternal Hashimoto thyroiditis. Thus, in every 84,726
newborns one has this condition. These cases repre-
sent 2.7% of all neonates with CH (transient and per-
manent). In North America, Brown et al\textsuperscript{9} found this
form of transient CH in 1:180,000 screened newborns
by measuring the TSH binding inhibitory activity in
dried blood spots. This accounted for approximately
2% of CH cases in this study. Data from Switzerland
showed an incidence of approximately 1:310,000 live
newborns screened. Specifically, among 618,913 in-
fants screened in a 16-year period, only two cases (two
siblings) with transient CH due to maternal autoim-
mune thyroid disease were detected\textsuperscript{9}.

The presence of TSH-R Abs only in neonates with
transient CH provides strong evidence that these Abs
are etiologically related to the hypothyroidism ob-
served and are therefore of diagnostic value.

The antithyroid Abs also detected in this group do
not seem to be responsible for the development of
CH since they had also been found in the other two
groups of children recalled who were proved to have
either normal thyroid function or permanent CH.
These results are in agreement with a study done by
Dussault et al who suggested that antithyroid Abs do
not play an important role in the pathogenesis of per-
manent CH\textsuperscript{10}. In another study by Dussault et al\textsuperscript{11}, it
was demonstrated that the prevalence of microsomal
Abs was similar in mothers of newborns with CH and
in a control population (11.6% and 12%, respective-
ly). In our study, we found similar results for anti-TPO
Abs in newborns with permanent CH and those who
eventually had normal thyroid function. Moreover we
noticed the same percentage for anti-Tg Abs in these
two groups of newborns (1.2% and 1.9%, respecti-
vely). These findings reflect the prevalence of these Abs
in the general neonatal population, possibly through
transplacental transfer. A higher percentage of these
Abs was observed in the group of newborns with tran-
sient CH due to transplacental transfer of maternal
TSH-R Abs.

The serum concentration of TSH-R Abs does not
correlate with the severity of hypothyroidism as it is
expressed by serum levels of T4, FT4 and TSH. We
found that their clearance from an infant’s circula-
tion has been completed by the 3\textsuperscript{rd} month of life. In
a study by Matsuura et al\textsuperscript{12}, who presented data from
two siblings with transient CH due to TSH-binding
inhibitor immunoglobulins, it was found that the Abs
had been cleared from children’s blood by 3 months
of age in one and by 10 months in the other. Because
TSH-R Abs metabolism is crucial for the treatment
period, their measurement is expected to help in the
decision to terminate therapy with L-thyroxine.

All infants in the present study with transient CH
of autoimmune origin were healthy and in good clin-
ical condition when first examined. This is in contrast
to descriptions from other studies where the hypo-
thyroid infants had the typical appearance of a cretin\textsuperscript{12}.

\begin{table}[h]
  \centering
  \caption{Clinical and laboratory data of mothers of infants with transient CH.}
  \begin{tabular}{llll}
    \hline
    Patients & Clinical history & anti-Tg (U/mL) & anti-TPO (U/mL) & TSH-R Abs (U/L) \\
    \hline
    1 & Hypothyroid on R(3) & 0.6 & 91 & 245 \\
    2 & Hypothyroid on R(3) & >13,000 & >2,000 & 402 \\
    3,4 & Hypothyroid on R(8) & ND & ND & ND \\
    5 & Hypothyroid on R(2) & 731 & 173 & 137 \\
    6 & Hypothyroid on R(4) & 55 & 988 & >405 \\
  \hline
  \end{tabular}
  \textsuperscript{ND: Not done. Numbers in parenthesis: years of therapy.}
\end{table}